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of the

Fiftieth Annual Meeting

of the

American Economic Association

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Inquiries and other communications regarding membership, meetings, and the general affairs of the Association, as well as orders for publications, should be addressed to the Secretary of the American Economic Association, Northwestern University, Evanston, Illinois.

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PROGRAM OF THE FIFTIETH ANNUAL MEETING

With the exception of the first session, which is devoted to Marxian economics, the program, joint with the American Statistical Association, is centered on the general topic of the influence of various factors upon fluctuations of investment or the means by which the rate of investment may be rendered more stable. The presidential addresses of Professor Sprague, on "The Recovery Problem in the United States," and Dr. Burgess, on "The Statistical Equivalent of Gold," serve to introduce the subject in its broader aspects. The six main papers following these addresses deal more particularly with special factors; namely, rate of interest, the security market, price policies, fiscal policies, consumption and wage policies. Following the main papers are found summaries of a series of round-table discussions treating special aspects of the main topics presented in the papers.

It was thought that the plan to concentrate the entire session upon one single topic ramifying into many special fields would give a unity to the program and provide an opportunity for developing intensively an important and practical economic problem.

THE PROGRAM COMMITTEE

TUESDAY, *December 28, 1937*

2:00 P.M.

1. *Significance of Marxian Economics*
   Chairman: Emil Lederer, New School for Social Research
   Papers: Wassily Leontief, Harvard University; Leo Rogin, University of California
   Discussion: John Ise, University of Kansas; Joseph J. Spengler, Duke University

5:00 P.M. *Meeting of the Executive Committee*

8:00 P.M. *Presidential Addresses* (joint meeting with the American Statistical Association)
   Chairman: Davis R. Dewey, Massachusetts Institute of Technology
   Papers: Oliver M. W. Sprague,[1] American Economic Association; W. Randolph Burgess,[2] American Statistical Association

WEDNESDAY, *December 29, 1937*

9:00 A.M. *Business Meeting* (Reports of Officers and Committees, etc.)

10:00 A.M.

1. *The Influence of Various Factors upon Fluctuations of Investment* (joint meeting with the American Statistical Association)
   Chairman: Sumner H. Slichter, Harvard University
   Papers: Richard M. Bissell, Jr., Yale University; Kemper Simpson, formerly with the Securities and Exchange Commission; Corwin D. Edwards, Federal Trade Commission

2:30 P.M.

1. *General Interest Theory* (joint round table with the American Statistical Association)
   Chairman: Bernard F. Haley, Stanford University
   Discussion: Paul T. Ellsworth, University of Cincinnati; Arthur W. Marget, University of Minnesota; Max F. Millikan,[3] Yale University; Walter A. Morton, University of Wisconsin
2. *Rate of Interest* (joint round table with the American Statistical Association)
   Chairman: Winfield W. Riefler, Princeton University
   Discussion: John B. Canning, Stanford University; J. Franklin Ebersole, Harvard University; Harry White, United States Treasury Department; Fred R. Macaulay, National Bureau of Economic Research
3. *Security Regulation* (joint round table with the American Statistical Association)
   Chairman: Ray B. Westerfield, Yale University
   Discussion: Karl R. Bopp, University of Missouri; Fritz Machlup, University of Buffalo; Raymond W. Goldschmidt, Securities and Exchange Commission; Carl E. Parry, Board of Governors of the Federal Reserve System;

[1] To be published in the March, 1938, issue of the *American Economic Review.*
[2] To be published by the American Statistical Association.
[3] To be published, in revised form, in the June, 1938, issue of the *American Economic Review.*

Alexander Sachs, Lehman Brothers; John E. McDonough, Securities and Exchange Commission; Fritz Lehmann, New School for Social Research; James C. Dolley, University of Texas

4. *Corporate Price Policies* (joint round table with the American Statistical Association)
   Chairman: Frederic B. Garver, University of Minnesota
   Discussion: Gustav Seidler, National Resources Committee; Lloyd G. Reynolds, Harvard University; Frank M. Boddy, University of Minnesota; Rufus S. Tucker,[1] General Motors Corporation
5. *Capital Gains and Losses: Their Treatment in Income Measurement and in Income Taxation*[4] (joint round table with the American Statistical Association)
   Chairman: George O. May, Price, Waterhouse and Company
   Discussion: Roy Blough, University of Cincinnati; William W. Hewett, University of Cincinnati; Robert M. Haig, Columbia University; Harold M. Groves, University of Wisconsin; Henry C. Simons, University of Chicago

9:00 P.M. SMOKER
   Chairman: Frank A. Fetter, Princeton University

THURSDAY, *December 30, 1937*

9:00 A.M. *Business Meeting* (Election of Officers, etc.)

10:00 A.M.

1. *The Influence of Various Factors upon Fluctuations of Investment* (joint meeting with the American Statistical Association)
   Chairman: Joseph S. Davis, Stanford University
   Papers: Arthur D. Gayer, Columbia University; Albert G. Hart, University of Chicago; Leo Wolman, Columbia University

12:00 M. *Meeting of the Executive Committee*

2:30 P.M.

1. *Fiscal Policies* (joint round table with the American Statistical Asociation)
   Chairman: Robert M. Haig, Columbia University
   Discussion: Alfred G. Buehler, University of Vermont; Arthur R. Upgren, University of Minnesota; Carl Shoup, Columbia University; Melchior Palyi, University of Chicago
2. *Social Security Program* (joint round table with the American Statistical Association and the American Association for Labor Legislation)
   Chairman: William A. Berridge, Metropolitan Life Insurance Company
   Discussion: Edison L. Bowers, Ohio State University; Harold V. Roelse, New York Federal Reserve Bank; Otto Nathan, New York University; Eleanor L. Dulles, Social Security Board
3. *Rate of Consumption* (joint round table with the American Statistical Association)
   Chairman: Simon Kuznets, University of Pennsylvania
   Discussion: Herbert D. Simpson, Northwestern University; George Halm, Tufts College; Walter Egle, Ohio State University; H. L. McCracken, Louisiana State University
4. *Durable Consumers Goods* (joint round table with the American Statistical Association and the American Marketing Association)
   Chairman: Calvin Hoover, Duke University
   Discussion: Albert Haring, Lehigh University; Norman J. Silberling, Stanford University; F. Leslie Hayford, General Motors Corporation
5. *Wage Policies* (joint round table with the American Statistical Association)
   Chairman: Frank D. Graham, Princeton University
   Discussion: Paul Sweezy, Harvard University; Carroll R. Daugherty, University of Pittsburgh; Lorie Tarshis, Tufts College
6. *Price Changes and National Income*[4] (joint round table with the American Statistical Association)
   Chairman: Morris A. Copeland, Central Statistical Board
   Discussion: Gottfried Haberler, Harvard University; Hans Neisser, University of Pennsylvania; Lauchlin B. Currie, Board of Governors of the Federal Reserve System; Charles O. Hardy, Brookings Institution

[4] To be published by the Conference in Research in National Income and Wealth.

THE purpose of the American Economic Association, according to its charter, is the encouragement of economic research, the issue of publications on economic subjects, and the encouragement of perfect freedom of economic discussion. The Association as such takes no partisan attitude, nor does it commit its members to any position on practical economic questions. It is the organ of no party, sect, or institution. Persons of all shades of economic opinion are found among its members, and widely different issues are given a hearing in its annual meetings and through its publications. The Association, therefore, assumes no responsibility for the opinions expressed by those who participate in its meetings.

JAMES WASHINGTON BELL
Secretary

THE SIGNIFICANCE OF MARXIAN ECONOMICS FOR PRESENT-DAY ECONOMIC THEORY

By WASSILY LEONTIEF
Harvard University

The subject of this discussion can be conveniently approached under three separate headings. First, I will say a few words about the significance of Marxian economics for the modern theory of value. Next, I propose to to advance toward the frontier line of contemporary theoretical discussion—the problems of business cycles and of progressive economy in general. I shall conclude this survey by raising certain issues connected with the methodological aspect of Marxian economics.

The modern theory of prices does not owe anything to the Marxian version of the classical labor theory of value nor can it in my opinion profit from any attempts towards reconciliation or mediation between the two types of approach. A number of economists who consider themselves as belonging to the Marxist school of thought have taken a similar stand, so that in stressing this point further I could be rightfully accused of trying to break into an open door.

There exists, however, in the value controversy one point which apparently did not attract sufficient attention. In the very first pages of the first volume of *Capital,* Marx raised against the "vulgar" (I guess he would call them today "orthodox" or "neo-classical") economists the accusation of "fetishism." Instead of looking for the ultimate deep-lying price-determinants, they operate, according to Marx, with superficial, imaginary concepts of supply and demand, money costs, etc., all of which refer to purely fictitious relations. Although these subjective concepts acquire in the mind of acting economic individuals the quality of independent, tyrannically dominating forces, actually they are nothing but the products of deliberate actions of the same individuals.

This typically Hegelian observation is strikingly correct. Is, however, the theoretical conclusion which Marx seems to draw from it actually justified? If it were, his criticism would indict modern price theory even in a greater degree than any of the theories of his contemporaries, John Stuart Mill, Senior, or Malthus.

Is not it a pure and simple fetishism to construct a theory of duopoly in terms of evaluation by Mr. Jones of Mr. Smith's expectations concerning Mr. Robinson's probable actions?

The procedure of the modern value theory comprises two clearly separable and fundamentally different types of analysis. First, it considers the behavior of individual entrepreneurs and householders in terms of their own economic motivations and explains this behavior in terms of their own notions—in terms of individual demand schedules as they appear to

them, of the monetary cost curves as they appear to them, and so on. Next, the modern theory shows how the actions of these individuals determine independently of their rational will and, using the famous Marxian expression, "behind their consciousness," the shape and position of the very same imaginary demand and cost curve.

In the first stage of his analysis, the modern theorist simply reproduces the rational considerations of entrepreneurs engaged in the business of maximizing their profits, and describes the reactions of consumers seeking the best possible satisfactions of their wants. In principle, at least, each individual knows this part of economic theory and acts accordingly. For the theorist, it would be inadmissible to introduce at this stage of his analysis any other concepts but those which dominate the mind of actual producers and consumers. He explains their actions in terms of their own beliefs and fetishes.

The opposite is true of the second part of economic theory, which could be called the theory of external interdependence. Here we analyze certain objective repercussions of individual economic activities entirely independently of the subjective attitude of the individual actors. As a matter of fact, and this has been repeatedly pointed out, a large part of theoretical analysis at this stage of argument is based on the assumption that the economic individuals concerned are ignorant of any such objective repercussions of their own activities. If they were to taste the apple of knowledge their behavior would become fundamentally different and our theoretical system would turn false the very moment it became the property of manufacturers, workers, or consumers.

At this level of the argument, the theorist actually removes the veil of subjective appearances and, instead of interpreting actions of economic individuals in terms of subjective motivations and beliefs, he explains these very beliefs and motivations in terms of objective actions and reactions.

What did Marx mean exactly in accusing the bourgeois economist of fetishism? If he simply wanted to intimate that the second stage of theoretical explanation constituted a necessary complement to the first, the modern theorist will heartily agree with him and point to the Walrasian theory of general equilibrium or the recently developed theory of monopolistic competition as two outstanding examples of this type of analysis. It must have been the guardian angel of Marx, the prophet, who made some of the modern theorists introduce expectations, anticipations, and various other *ex ante* concepts, thus justifying *ex post* some of the most vitriolic pages of the first volume of *Capital*. But I prefer to let these modern theorists settle their own account with Marx.

Should, however, the Marxian theory of fetishism be understood as a forthright condemnation of the first stage of our theoretical analysis—the stage which deals with conscious reactions of individual entrepreneurs

and householders—his objection must simply be turned down as fundamentally erroneous.

Unlike the modern theory of prices the present-day business cycle analysis is clearly indebted to Marxian economics. Without raising the question of priority it would hardly be an exaggeration to say that the three volumes of *Capital* helped more than any other single work to bring the whole problem into the forefront of economic discussion.

It is rather difficult to say how much Marx actually contributed to the solution of the problem. After years of intensive controversy, there is still no solution. I expect that this statement will not elicit any open contradiction, although I do not remember having read or heard a business cycle theorist admit that he was unable to solve this or that problem; the nearest he comes to such an admission is when he declares that the particular problem is insolvable, which implies that not only he but that also no one else will be able to solve it.

The two principal variants of the Marxian explanation of business cycles, or rather "economic crises," are well known. One is the theory of underinvestment based on the famous law of the falling rate of profits, the other is the theory of underconsumption. Both might contain some grain of truth. Which business cycle theory does not?

Scanning the pages of Marxian writings it is easy to find numerous hints and suggestions which can be interpreted as anticipating any and every of the modern theoretical constructions. Here is a curious example of this kind—an excerpt from a letter to Friedrich Engels, dated May 31, 1875:

> I communicated to Moor a story (*Geschichte*) with which I wrangled privately for a long time. He thinks, however, that the problem is insolvable or at least insolvable at the present time because it involves many factors which must be yet determined. The issue is the following one: You know the tables representing prices, discount rates, etc., in the form of zigzags fluctuating up and down. I have tried repeatedly to compute these "ups and downs" [the English expression is used by Marx]—for the purpose of business cycle analysis—as irregular curves and thus to calculate the principal laws of economic crises mathematically. I still believe that the task can be accomplished on the basis of a critically sifted statistical material.

Thus it appears that toward the end of his life Marx actually anticipated the statistical, mathematical approach to the business cycle analysis. An approach which, incidentally, only recently was declared by an authoritative Soviet Russian textbook on mathematical statistics to be nothing else but an insidious invention of the Intelligence Division of the French General Staff.

The significance of Marxian economics for the modern business cycle theory lies, however, not in such indecisive direct attempts toward the final solution of the problem but rather in the preparatory work contained mainly in the second and partly in the third volume of *Capital*. I have in mind the famous Marxian schemes of capital reproduction.

Whatever the ultimate clue to the final theoretical solution might be, an intelligent discussion, not to say explanation, of economic fluctuations must be based on some kind of a theoretical model revealing the fundamental structural characteristic of the existing economic system. In this field the original contributions of post-Marxian economics are rather uncertain. On the one hand, we have the Walrasian scheme of m householders and n individuals, each one buying from and selling to the other. It is pretty certain that in terms of a schematic picture of such extreme generality it would be hardly possible to give an adequate realistic description of the process of economic fluctuations.

On the other hand, there is the well-known Böhm-Bawerkian model of a simple linear flow of commodities and services, originating in some distant point where only land and labor are being applied and emptying itself, after a greater or smaller number of intermediate stages, into the final reservoir of finished consumers goods. The picture certainly does not lack concreteness. Unfortunately its concreteness is utterly misplaced.

The actual structure of the present-day economic system is anything but linear. The mutual interrelation of industries is anything but that of simple vertical succession and—what is particularly important—that initial stage characterized by exclusive application of the "original factors of production" is nonexistent. If Böhm-Bawerk did actually set out in search of this hypothetical first stage, he would find himself now still on the road.

The controversial issue is not of mean importance. It affects even such relatively simple problems as, for example, the question of substitution of machinery for labor. If approached without preconceived notions, the matter is a rather simple one. Should, let us say, the price of "horse labor" increase in relation to the costs connected with the operation of a tractor, the farmer would substitute tractors for horses. The demand for horses would decrease. If horses were able and willing to exist on smaller hay rations the postulated price discrepancy would disappear and they would find complete employment at a lower level of "forage rates." Otherwise serious unemployment appears to be inevitable. Put the word "workers" instead of "horses," "wage rates" instead of "forage rates," and "entrepreneur" instead of "farmer" and you have a fairly accurate statement of the problem and its solution.

Now comes the compensation theorist and objects. According to him, the price of tractors could not fall in relation to the price of horses in the first place. Referring to the vertical structure of the Böhm-Bawerkian scheme he substantiates his objection but points out that "in the last instance"—in the famous first stage—all mechanical instruments are produced by labor and land alone and concludes that an increase in the price of labor would necessarily cause an equivalent rise in the tractor price.

If a faulty structural picture of our economic system can produce con-

fusion even in the discussion of a relatively simple theoretical problem, it is bound to raise havoc with the incomparably more complicated analysis of cyclical business fluctuations.

Marx successfully combated the Böhm-Bawerkian point of view in attacking the contemporary *théorie des débouches* of Jean Baptiste Say. He also developed the fundamental scheme describing the interrelation between consumer and capital goods industries. Far from being the *ultimo ratio* of this line of analysis, the Marxian scheme still constitutes one of the few propositions concerning which there seems to exist a tolerable agreement among the majority of business cycle theories. It is interesting to note in this connection that even Professor Hayek, as can be seen from his recent articles, is busy reconstructing his own triangular investment diagram. One does not need to be a prophet to predict that sooner or later he will present to us a circular arrangement of the orthodox Marxian type.

The controversy which thus seems to be drawing toward a happy ending has incidentally put both disputing parties into a rather paradoxical situation. The dean of the bourgeois economists insisted on theoretical reduction of all capital goods to pure labor; he was opposed by the formidable proponent of the labor theory of value in the rôle of a defender of the independent, primary function of fixed capital.

However important these technical contributions to the progress of economic theory, in the present-day appraisal of Marxian achievements they are overshadowed by his brilliant analysis of the long-run tendencies of the capitalistic system. The record is indeed impressive: increasing concentration of wealth, rapid elimination of small and medium sized enterprise, progressive limitation of competition, incessant technological progress accompanied by the ever growing importance of fixed capital, and, last but not least, the undiminishing amplitude of recurrent business cycles—an unsurpassed series of prognostications fulfilled, against which modern economic theory with all its refinements has little to show indeed.

What significance has this list of successful anticipations for modern economic theory? Those who believe that Marx has said the last word on the subject invite us to quit. The attitude of other somewhat less optimistic—or should I say pessimistic—critics is well expressed by Professor Heimann: "Marx's work remains by far the most comprehensive and impressive model of what we have to do." The whole issue of the significance of Marxian economics for modern theory is thus transformed into a methodological question.

I enter this higher plane of discussion with feelings of considerable reluctance and serious apprehension. Not that Marx and his followers were sparse in their contributions to controversial methodological questions; on the contrary, it is rather the overabundance of contradictory and, at the same time, not very specific advice that makes it so difficult to find

our way through the maze of divergent interpretations and explanations. It was in the same spirit of despair that Marx himself, in one of his lighter moods, exclaimed, "I am not a Marxist."

Roughly all these methodological prescriptions can be divided into two groups. On the one side are the general considerations, which, although highly interesting from the point of view of philosophy and the sociology of knowledge, are entirely nonoperational from the point of view of practical scientific work. It might be true, for example, that a bourgeois economist, by the very virtue of his social and economic position, is essentially unable to recognize the driving forces and to discern the fundamental relations which govern the rise and fall of capitalist society. But what can he do about it? Give up teaching and investigating and join the proletarian ranks? This might render him a more useful member of society, but will anybody seriously maintain that such a change could improve his economic theory?

Into the same group of essentially nonoperational prescriptions I would also place all references to the efficiency of the dialectical method. It might be true that the concept of unity of opposites inspired Newton in his invention of infinitesimal calculus and helped Marx in his analysis of capital accumulation—at least it would be rather difficult to disprove such contentions—but it is very doubtful whether even a most careful reading of Engel's exposition of this principle could help Mr. Keynes, for example, with his solution of the unemployment problem.

On the other hand, Marxian methodology seems to contain some more concrete principles and concepts which deserve serious and detailed consideration. It is this aspect of the problem which was so ably brought to light by Dr. Lange in his brilliant article on "Marxian Economics and Modern Economic Theory."[1] Translating the Marxian slang into the vernacular of modern economics, he defines the issue at stake as the problem of data and variables in economic theory.

Admitting the superiority of the modern equilibrium theory, Dr. Lange tries to explain the marked success of Marxian prognostications by the particular attention which the author of *Capital* gave to the treatment of his data. It is an interesting thesis and it deserves a closer, critical scrutiny.

Data comprise all those elements of a theory which are used in the explanation of the variables but are not explained themselves within the system of the same theory, i.e., they are simply considered as being "given."

Among these there are first of all those general propositions which indicate whether we are going to talk about cabbages or kings and thus describe the general "universe of discourse," as the logician calls it. These data are predominately qualitative in character. The so-called institutional assumptions of economic theory belong to this first category.

[1] *Review of Economic Studies*, June, 1935.

Marx persistently derided contemporary classical economists for their failure to specify explicitly the institutional background of their theories. He was doubtless right and the same criticism applies equally well to some of the modern theorists. Fortunately enough in the process of their actual work the bourgeois economists implicitly and maybe even unconsciously framed their theories in complete accordance with the fundamental, relevant facts of the institutional background of capitalist society. Thus the subjective methodological shortcomings did not impair the objective validity of their theoretical deductions.

The second type of data comprise statements of basic interrelations which constitute the immediate point of departure for derivation and formulation of specific propositions of our theoretical system. Technical production functions, shapes of the demand curves describing the consumers choice, schedules of liquidity preferences—all these are examples of this second type of data. They are predominately quantative in character.

It is this category of data which was meant by Clapham in his famous reference to the "empty boxes of economic theory." The boxes are not much fuller now than they were twenty years ago, but the Marxian theory hardly contains the stuff which could be used to fill the vacuum.

Dr. Lange seems to be of a different opinion. He points out in this connection the concept of technological progress as the mainstay of the Marxian theory of economic evolution of the capitalist society. This progress is being made responsible for the formation of a permanent army of unemployed which in its turn is supposed to prevent the otherwise unavoidable absorption of all profit by an ever increasing national wage bill. Dr. Lange's statement of the problem suffers, however, from serious ambiguity.

As indicated before, substitution of machinery for labor can easily take place without new inventions, simply through movement from one point of a given production function to another. Reduced interest rate due to ever increasing supply of accumulated capital might easily lead to such a result. The technical datum—the technical horizon of the entrepreneur—will remain in this case as stable as for example the cost curve of a monopolist might remain stable while he is changing his position by sliding along his curve in response to some demand variations.

A quite different phenomenon takes place when an entrepreneur reduces his demand for labor not in response to changing interest or wage rates but because a previously unknown new invention makes it profitable to use less labor and more machinery, even if interest as well as wage rates were to remain the same as before. Here we are facing a genuine change in primary technological data.

Both types of adjustment mark the evolution of capitalist economics. Dr. Lange does not seem to make a clear-cut distinction between the two, but the general drift of his argument points toward the second rather than first

type of labor displacement. Neither is the position of Marx himself particularly clear. The great stress put upon the process of progressive accumulation, which the author of *Capital* considers to be a necessary condition of the very existence of the present economic system, indicates that it is rather the first type of substitution which he has in mind.

Anyway, the fact that the Marxian theory lends itself on this point to so many different interpretations, shows that in so far as the careful specifications and analysis of basic data is concerned, it is rather the Marxist who can learn from modern economists than vice versa.

Finally we come to the third and last aspect of this methodological conflict. Modern economic theory limits itself to a much narrower set of problems than that which is included in the scope of Marxian economics. Many items treated as data in the first system are considered to be in the group of dependent variables in the second. In so far as the general methodological principle is concerned any effective extension of a theoretical system beyond its old frontier represents a real scientific progress.

To avoid a misunderstanding it must be kept in mind that such extension cannot possibly result in a complete liquidation of independent data. It simply replaces one set of data by another. So, for example, if we were to include governmental action as a dependent variable within the system of economic theory, the amount of public expenditure of the height of import tariffs had to be considered as a function of some other economic variables in the same way as the output of a firm in competition is considered to be a function of the prevailing market price. It is perfectly obvious, however, that the first type of relationship is much less definite in its character than the second. This, I think, is the reason why the modern economist is reluctant to discuss both types of interrelations on the same plane. And he is right because neither part can profit from such artificial connection, which does not mean that the result of the two types of investigation could not and should not be fruitfully combined in attempts toward some kind of a wider synthesis. Occasional alliances and frequent co-operation are, however, something quite different than radical unification accompanied by complete obliteration of existing border lines.

Neither his analytical accomplishments nor the purported methodological superiority can explain the Marxian record of correct prognostications. His strength lies in realistic, empirical knowledge of the capitalist system.

Repeated experiments have shown that in their attempts to prognosticate individual behavior, professional psychologists systematically fall behind experienced laymen with a knack for "character reading." Marx was the great character reader of the capitalist system. As many individuals of this type, Marx had also his rational theories, but these theories in general do

not hold water. Their inherent weakness shows up as soon as other economists not endowed with the exceptionally realistic sense of the master try to proceed on the basis of his blueprints.

The significance of Marx for modern economic theory is that of an inexhaustible source of direct observation. Much of the present-day theorizing is purely derivative, secondhand theorizing. We often theorize not about business enterprises, wages, or business cycles but about other people's theories of profits, other people's theories of wages, and other people's theories of business cycles. If before attempting any explanation one wants to learn what profits and wages and capitalist enterprises actually are, he can obtain in the three volumes of *Capital* more realistic and relevant first-hand information than he could possibly hope to find in ten successive issues of the *United States Census,* a dozen textbooks on contemporary economic institutions, and even, may I dare to say, the collected essays of Thorstein Veblen.

THE SIGNIFICANCE OF MARXIAN ECONOMICS FOR CURRENT TRENDS OF GOVERNMENT POLICY

By LEO ROGIN
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It would be a narrow interpretation of Marxian economics which would limit that interpretation strictly to the writings of Karl Marx. But it would be absurd, on the other hand, to conceive of a policy as constituting an expression of Marxism unless that policy were in some proximate sense based on a careful study of these writings. In that sense, then, one can safely say that there has been very little intimate knowledge and even less conscious application of Marxian economics in the conception and the administration of the New Deal.

I base that assertion on my first or secondhand knowledge, as the case may be, of the personnel of the New Deal. For its justification, however, it will be more seemly and enlightening to survey, of necessity briefly, the career of the New Deal in the light of Marxian economics. Before we proceed to our task let us glance at that more recondite relation—its alleged influence upon the New Deal.

One of my colleagues at Berkeley, an economic historian, has a fondness for the idea that no historical event is a matter of indifference to the subsequent course of history. Few historians would be disposed to assert that the context of events represented by the emergence of the Marxian system of thought has been without important influence on what followed. To try to identify, or segregate, that influence, however, would be a dubious adventure, likely to lead one into loose historical generalization. We are dealing here, among other things, with a system of theory which involves prognosis. How are we to distinguish between the vindication of the theory and its causal incidence? If Marxian economics constitutes a realistic and acute analysis of the capitalistic process, and if President Roosevelt has been dealing in a realistic fashion with the problems thrown up by that process in this country, the small measure of collectivism associated with the New Deal need not have its inception in Marxian economics. It may be considered, rather, a vindication of the significance of that analysis.

The New Deal has involved, to be sure, a tremendous amount of government interference with business enterprise. But is that synonymous with Marxism, with collectivism? It is not necessary to point to fascism in order to demonstrate the lack of identity between collectivism and government interference. Let us rather consider for a moment the most vital school of economic liberalism in this country. I refer to the University of Chicago economists who, I believe, have endorsed unanimously Professor Frank Simons' program of back-to-competition. That program not only involves a tremendous amount of government interference with business in order

to invoke the lost Utopia of competition, but it also looks to the permanent establishment of an all-pervasive government bureaucracy as the guardian of that competition. And over it all is to preside, in a political vacuum, a very monster of bureaucracy—a monetary authority, implemented by the mechanism of the 100 per cent legal reserve.

I am not concerned with an evaluation of this program. I merely wish to indicate that as soon as present-day economic liberals leave the convenient abstractions of pure theory, they find it necessary to bow to the exigencies of modern technology and modern business organization. They find it necessary to invoke bureaucracy in their polemic against New Deal and collectivist bureaucracy. Unlike that of their classical progenitors, their program is merely a denial of planning; it is not an affirmation of laissez faire.

Here again it is possible that while they have learned little from Marx, modern economic liberals, like their contemporaries, the New Dealers, are by the concessions of their program—concessions born of desperation—furnishing a partial vindication of Marxian economics.

It is time we recurred to our main theme, the career of the New Deal in the light of Marxian economics. American business enterprise, big and little, was prostrate in the spring of 1933. The introduction of a socialist régime may not have been feasible at the time. It may nevertheless be urged that an administration bent on collectivism would hardly have thawed out, bailed out, cleaned out, and resuscitated the banks for the sole purpose of returning them to private hands. Such an administration would hardly have continued Mr. Hoover's policy of bailing out other financial enterprises, the railroads, and large corporate enterprise in general. I am not contending that any of these things should not have been done, but am merely calling attention to the circumstance that this allegedly socialistic administration proceeded, in the day of its collectivist opportunity, to the task of restoring a shattered capitalism to health and, it fondly dreamed, to a newly-won respectability.

Of much greater significance was the New Deal's repudiation of a forthright program of production for use in so far as unemployed men, materials, factories, and equipment were concerned. These resources might conceivably have been employed, outside the realm of private enterprise, in the production of goods urgently needed by the unemployed. Here also was a great opportunity to get rid of the agricultural surplus. The pressing character of the latter problem is indicated by the desperate methods employed to resolve it. The policy of the Administration on production for use was amply demonstrated in the promptness with which the comprehensive production-for-use program in Ohio was ordered to be liquidated when the Washington office assumed direct charge of the administration of relief in Ohio in May, 1935.

The New Deal has received scant thanks for its tenderness toward "legitimate" business enterprise. On the one hand, its efforts to make capitalism respectable and tenable through such measures as the Securities and Exchange Act were castigated as violations of the necessary premises of a profit economy. On the other hand, its efforts to make the agricultural sector of private enterprise profitable without encroaching on the acquisitive expectations of industry and commerce, were condemned as violations of the elementary ethics of mankind and the plain injunctions of both the Old and the New Testaments. Not in a position to produce freely for use, Mr. Hopkins' relief organization was inevitably driven to a certain amount of "boondoggling."

The NRA has been viewed as representing the high level of collectivism in the career of the New Deal. None but the naïve and ill informed would be disposed to deny that the fair trade practices section of the NIRA was an answer to the prayers of the trade associations. Section 7A of that Act served in part as a compensation to labor for the boon granted to the trade associations. It is primarily, however, an important episode in the Administration's encouragement of collective bargaining. Such encouragement is in no specific sense Marxian either in its intent or in its theoretical premises. Collective bargaining has received theoretical justification from no less respectable a source than Alfred Marshall. No fair, no equilibrium, wages, he argued, could be expected to issue from individual bargaining between employers and their workers.

The NRA wages and hours provisions are of immediate interest because of the Wages and Hours bill which is an essential part of President Roosevelt's present program. Marx's *Capital* might have furnished an extraordinary measure of prevision of the speed-up, the stretch-out, the wielding of the club of potential mechanization, and the firing of the weaker and older workers, all of which accompanied the application of the wages and hours provisions of the NRA. But there was little prevision of these developments on the part of those who formulated and administered the NIRA, and there is apparently little effort to anticipate these eventualities at the present time in connection with the Wages and Hours bill.

The labor policy of the New Deal coincides in the main with the practical demands of labor and with the humanitarian premises which the New Deal and Marxism have in common. In consequence even trained Marxians are apt to extend glib acquiescence to the New Deal's espousal of the Hobsonian underconsumption theory of economic fluctuations. The fact remains that the recovery was checked at the very time when wages and pay rolls first gave promise of catching up with profits and production. One should not jump at the conclusion that we necessarily have here a relation of cause and effect, that it was the rise in wages and pay rolls that checked the recovery. But the hypothesis is provoked, nevertheless, that a rapid

increase in wages does not asure the process of recovery. It may even be possible that after a lag of income to the workers, because of lagging wage rates and increased productivity of labor, a rapid rise in wages may be prejudicial to recovery. Such a rise may contribute to the recognition of the untenability of inflated security and commodity prices which were in themselves largely premised on the lagging pay rolls.

It may at this point be said that I have admitted inadequate consumer purchasing power to be involved in the difficulty. Precisely. Lagging wages may lay the ground for economic instability, and rising wages may in turn contribute to the crisis of recession. The influence of any factor cannot be posited dogmatically in the abstract. Its character and extent depend on the nature of the economic configuration which happens to prevail.

Marx himself was not guilty of a simple underconsumption theory. To be sure, he stated that the inadequate distribution of income to the masses and the consequent underconsumption relative to productive capacity were the ultimate causes of crises and depressions. That, however, is a broad generalization which furnishes the theoretical premise for his condemnation of private capitalism. It should not be construed as an adequate guide to practice within the confines of private capitalism.

The Marxian business cycle analysis in Volume II of *Capital* contains an elaborate anticipation of that part of social credit theory which Mr. Keynes considers a novel contribution to economic science. I refer to that part of Major Douglas' analysis which traces the consequences of allowance for depreciation. It has been developed in possibly an oversubtle fashion in Mr. Keynes's doctrine of user cost. Marx's monumental work in general and Volume III in particular anticipate by more than half a century Mr. Keynes's and Mr. Hayek's allegedly novel integration of the theories of value, of money, and of economic fluctuations. In its emphasis on successful accumulation as the prerequisite of a rapid tempo of economic activity, the Marxian analysis is definitely more closely akin to that of Spiethoff, Cassel, D. H. Robertson, and Hayek than to that of Hobson and of Foster and Catchings. Marx differs from the former group of theorists, particularly from Hayek, in that he follows Sismondi in the recognition that all business enterprise is speculation. In consequence, there is no place in his theory of economic fluctuations for nice calculations of maxima together with the refined technique by which that spurious calculation is implemented. Mr. Hawtrey shows a strange kinship to Marx in this regard.

The Marxian cyclical analysis, moreover, has its setting in a theory of capitalist development which is absent in the work of the others. The capitalist development is, in fact, conceived to be mediated by the cyclical movement. Among the writings of non-socialist theorists, Professor Schumpeter's *Theory of Economic Development* comes closest to Marx in the latter respect. Professor Schumpeter has the rare good grace to acknowledge his

model. He recognizes, moreover, the decidedly more limited scope of his own analysis.

In his otherwise essentially static formulation, Mr. Keynes's *General Theory* approximates the Marxian position when he postulates that the difficulty of maintaining economic adjustment increases with the wealth of a country. Mr. Harrod, in his *Trade Cycles,* comes even closer to the Marxian doctrine that the process of accumulation which is necessary to prosperity tends to create a plethora of accumulation which chokes that prosperity.

Of late, the New Deal has been more Keynesian than Hobsonian in its theoretic orientation, particularly in the premises which underlie its public works program. Marx never envisaged state action on a large scale in the interest of the masses, of recovery, and of economic stabilization. In fact, the main task of those who wish to employ the Marxian theory in concrete economic analysis is to adapt it to the requirements of an economic process which involves a vast amount of government regulation and participation. Had he been able to envisage a large program of public works in a setting of entrepreneurial "rugged individualism," I suspect Marx would have been inclined to remark that these entrepreneurs would in the first place sabotage the priming of the pump and then proceed to take the pump away.

Mr. Keynes, it may be said in passing, is hardly Marxian, particularly in the social premises of his economic analysis. These are of great importance, both in the emphasis of a theory and in its application. In his attack on the *rentier* he is a Ricardian. In his attack on financial capital Mr. Keynes is a follower of Proudhon. Hence his admiration for the non-Marxian socialism of Sylvio Gesell, who acknowledges himself a devout disciple of Proudhon.

The remoteness from Marxism is greatest in that aspect of the New Deal which relates to its agricultural policy. It is not merely that in this connection we do not have an instructed Marxism. Nor would it be tenable to explain the gap between Marxism and the New Deal in terms of the impossibility of translating doctrine into practice. We are dealing here with a policy which is, in its spirit, in its method of analyzing the problem, and in its application, fundamentally hostile to Marxism.

The spirit in which the agricultural policy was conceived is indicated by the circumstance that agricultural labor was (with very minor reservations) considered to be outside the scope of the agricultural interest. It cannot be urged in defense of this omission that the number of farm laborers in negligible. If we include sharecroppers with agricultural workers, the most authoritative estimate yields a figure of about 3,500,000. That is to be compared with about 6,000,000 for agricultural entrepreneurs. The large number of the latter, coupled with the circumstances that the bulk of them are working farmers, does provide a democratic social premise for the agricultural policy. The exclusion of hired labor from the benevo-

lent intents of that policy should, nevertheless, mark it as completely devoid of contamination by any theory dedicated to the proletarian cause. It should be noted in connection with the foregoing that a Department of Agriculture survey discovers the wages and working conditions of farm labor to be far worse than those of any other important group of workers in this country.

Despite the fact that the New Deal is supposed to be very specially devoted to the submerged third of the population, the most submerged section of this one-third has fallen outside the scope of the whole range of New Deal legislation. Agricultural workers were, in the first place, not included under the labor provisions of the NIRA. Their legal status in that connection was never made clear, but for all practical purposes such was the case. The Agricultural Adjustment Administration, moreover, made every effort to widen the scope of the category of agricultural labor, so that the labor provisions might not imperil, or complicate, its program. The National Labor Relations Act has continued the discrimination against agricultural workers. They are also excluded from the insurance features of the social security legislation and are outside the scope of the workmen's compensation laws. While the latter are strictly within the scope of state legislation, the circumstance does serve to accentuate the farm laborer's insecurity and economic degradation.

The large bulk of agricultural laborers are employed by a relatively small number of capitalistic producers with whom agriculture is to a large extent either an avocation or secondary to their economic interests as bankers or distributors. The concentration of large-scale farming in a relatively small number of regions in the United States, and its predominance in California and Florida, raise the farm labor issue to the level of a struggle between capital and labor as distinguished from the bargaining between a working farmer and one or two hired men.

I have referred to the decidedly non-Marxian method of economic analysis associated with the agricultural policy of the New Deal. The following may serve by way of illustration. I have it on very good authority that when the loss of livelihood to thousands of sharecroppers incident to the contraction of cotton acreage was brought to the attention of an official very high up in the Agricultural Adjustment Administration, he replied, in effect, "That is a social problem. I am concerned with the problem of price." I cannot vouch absolutely for the correctness of the story. It is in any event true in the symbolic sense. The agricultural problem has been conceived too exclusively as a problem of price, with insufficient regard, not only to the relation between employee and employer, but also to the relations between tenant and landlord, debtor and creditor, producer and distributor—the latter masquerading all too often in the guise of an agricultural co-operative.

The conception of the economic process as a circus of commodities and

prices divorced from class relations is neither Marxian nor even classical. It is most strictly in consonance with the types of theory which have tended to prevail in our classrooms since the nineties of the last century—types of theory which Mr. Keynes has mistakenly included under the category of classical.

While the New Deal has on occasion explicitly repudiated this type of economics, it has nevertheless done much of its thinking within the confines of the orthodox principles. And the choice of principles is a matter of much practical consequence. The conception of the economic equilibrium as pre-eminently an equilibrium of prices leads to the diagnosis that economic maladjustment represents a deviation from some normal context of prices. The diagnosis is correct, but it is tautological, being merely an easy inference from the definition of the norm. It is extremely inadequate to the requirements of constructive practice. It serves very well, however, to distract attention from deep-seated institutional maladjustments.

In terms of this traditional definition of the norm, free competition is the institutional guaranty of a normal price relationship. There follows the diagnosis that all our economic ills are to be attributed to restraints imposed upon free competition. Thus the definition of the norm determines the cause of the malady. The cause is found to be regimentation, private and public. The government is then blamed for the existence of private monopoly, and the way is free for a concentrated attack upon political regimentation.

The New Deal has at various times tried to defend itself against this attack by threatening a counter attack on private monopoly. Its failure to recognize the inevitability of monopoly under private capitalism is hardly Marxian. Neither is it consistent with the New Deal's effort to implement monopoly under the NRA.

Consistency, it may be urged, is a political impossibility. We may even admire the opportunistic tactics of the quarterback on the New Deal team. I merely urge the difficulty of inferring from his behavior that he has been coached in the system of Karl Marx.

DISCUSSION

JOHN ISE: The significance to be accorded Marxian economics seems to me to depend largely on one's conception of the method and scope of economics. If economics is to be regarded as economic physiology—the study of the way the capitalistic system would work if it worked that way, if it were in a perfectly healthy condition—Marx has little to offer. If economics is to be regarded as the study of economic pathology as well as physiology, he will contribute a heavy grist; and if our conception of economics be expanded to include the study of capitalism in its historic setting, and in its relation to other economic systems, the study of the great German socialist seems to me indispensable. His usefulness appears to lie, not in his theories as to the functioning of a capitalist society, but in his savage and often penetrating criticism of its failures, and in the historical perspective from which he views the problems of economic society. Few of his contemporaries wrote so much that is faulty or wrong, but that few wrote so much significant truth is attested by the fact that of these contemporaries, only John Stuart Mill has left so deep an imprint on the development of economic and historical thought, if indeed Mill can be said to have done that.

As an economic theorist, Marx seems generally faulty, or entirely wrong, or occasionally right for the wrong reason. His notion of value as something substantial is quite unusable; his theory of surplus value, with all his pretense of mathematical precision, is largely a weird fabric of assumptions; although he followed the Ricardian theory of rent, he saw little of the significance of rent; he had no clear notion of the relation of the function of saving to interest; he had little or no conception of the productive significance of the enterpreneur; and in much of his analysis he draws no clear line between monoply and competitive conditions. Sometimes he arrives at conclusions at least partly correct, by lines of fallacious reasoning, as for instance in his theory of surplus value and the inability of the laborers to buy back their products. Using generally false reasoning and analysis, he comes to conclusions prophetic of those in Professor Moulton's recent studies. I confess my inability to resolve the issue between Professor Moulton and his critics, but am convinced that the concentration of too much of the total purchasing power in the hands of the rich and the lack of purchasing power in the hands of the masses is an important cause of the breakdown of capitalism; and for this reason I believe that Professor Leontief, in stating that Marx's theories on this point "might contain some grain of truth," is excessively judicious.

In his messianic zeal for the new order Marx built up a system of economics to support his preconceptions, and of course in such a process every error calls for other errors to fit the general scheme. Aside from the fallacies involved in much of his economics, however, his labored exposition and the attachment of strange meanings to familiar terms make his economics almost unusable for ordinary college work, even if college trustees are inclined to look with favor on such use.

It is as an economic historian—or shall I say as a philosopher of history—that Marx seems to me to have made his greatest contributions. His theory of historical materialism, although perhaps not to be rated with Darwin's theory

of evolution, as a few enthusiasts have suggested, was certainly epoch-making in its significance. As the cue followed more or less by such historians as Turner and Beard—whether knowingly or not, I cannot say—it has brought rich fruit of historical research. The institutional economists have qualified and expanded it. The theory of the war of the classes seems more realistic today than ever before; and it suggests a useful and significant point of view for those who believe that the social sciences should point the way to social amelioration. With this goes of course the concept of a "ruling class," a concept which Harold Laski and many other political scientists find indispensable in the interpretation of present-day problems. Naturally this concept has been slow to win recognition in America, where the notion of the happy family, democratically self-governed, has tenacious roots. In his assumption of the growth of large-scale industry and monopoly, and parallel increase in the numbers and in the radicalism of the laboring class, Marx saw the drift of economic history correctly, and his analysis of the significance of corporations is clearly prophetic of the recent study of Professors Berle and Means. Some of the passages in Marx would be sagacious, even if they were written in the light of present conditions; written more than a half-century ago, they seem amazingly penetrating.

Professor Leontief has summarized Marx's impressive record in analyzing the long-run tendencies of capitalism, and he seems a bit puzzled as to the reasons for his sagacity. I wonder if this particular prophetic faculty is not rather common in socialists and other radicals. Plato showed similar uncanny vision of developments more than two thousand years ahead; and many of the socialists of the past hundred years seem surprisingly modern in the perspective of later years. Not long ago I happened to read a speech of Senator Peffer, of Kansas, one of the early wild men for whom Kansas was famous before the days of budget-balancing and respectability; and the speech was so intelligent and so modern that I could not help wondering how he escaped recognition as one of the great men of his time. Perhaps all this should not be surprising, however. Men naturally do their best thinking in connection with the problems that interest them; and the socialists are much interested in historical tendencies and in the future. They face forward. Most of them are economic evolutionists. Conservatives, on the other hand, thinking in terms of the present, or even of the past, naturally fail to sense some of the most important drifts. Those who believe they have already arrived at the final destination are little concerned with the road ahead. For them there are no "drifts," but only sporadic outbursts of crazy radicalism on the part of those who do not appreciate the beauties of our capitalism. Disraeli exaggerated when he said that the conservatives are always wrong; but certainly the socialists have often seemed right in the light of later developments. Marx, although he was the greatest, was not the only wise prophet. Perhaps it should be added, parenthetically, that the value of much of Marx's work is probably higher than it would have been if his mind—according to the American tradition—had been fixed more on the question of royalties from his books.

On the other hand, some of Marx's historical analyses and predictions reveal surprising lapses of judgment. As often pointed out, he exaggerated the decline of the middle class; in fact, his analysis of the different classes of society was

quite too simple; and he apparently did not realize how tough the old capitalist society was, how tenacious was the control of the ruling class. Perhaps this was the reason he did not foresee the development of fascism. He showed little appreciation of the evils that existed before the advent of capitalism; in fact, his discussion of the beauties of the medieval religion, family, and chivalry verges on utopian sentimentalism. In the *Manifesto,* for instance, we are told that:

> The bourgeoisie, whenever it has got the upper hand, has put an end to all feudal, patriarchal, idyllic relations. It has pitilessly torn asunder the motley feudal ties that bound man to his "natural superiors," and has left remaining no other nexus between man and man than naked self-interest, than callous "cash payment." It has drowned the most heavenly ecstacies of religious fervor, of chivalrous enthusiasm, of philistine sentimentalism, in the icy water of egotistical calculation. . . . The bourgeoisie has stripped of its halo every occupation hitherto honored and looked up to with reverent awe. It has converted the physician, the lawyer, the priest, the poet, the man of science, into its paid wage-laborers. The bourgeoisie has torn away from the family its sentimental veil, and has reduced the family relation to a mere money relation.

Perhaps because of the messianic color of his mind, perhaps because he wrote of capitalism in what he considered its age of decadence, Marx did not appreciate the relationship between capitalism and the growth of democracy. More difficult to understand, however, is the almost complete lack of realism in his prediction of the final classless society. Seeing as he did that there had always been exploiters and exploited, and holding generally to the classicists' theory of human selfishness, how could he assume that the revolution, or any change in human relationships, would bring the happy Elysium that he pictured? He had not the institutionalists' theory of changing human nature. His general philosophy should have led him directly to the conclusion that under the dictatorship there would merely be a new ruling class, perhaps quite as selfish and brutal as the capitalists they had displaced. He assumed that the dictator would be a good dictator, who would really want a classless society—a man somewhat different from the Stalin of recent purges.

Whatever our conclusion as to the significance of the Marxian doctrines to present-day economists and political scientists, who can presumably study them dispassionately, we cannot escape the conclusion that, for better or worse, those doctrines have vastly influenced masses of men and human destinies. For better or worse, the world will never be the same as it would have been had not Marx raised the flag of bloody revolution.

The fruit of his teaching seems to me to be found, however, not mainly in any legislative program, such as the New Deal, but in the sharpening of the class conflict, in the rebellious determination with which a faction of labor presses its claims, in the hysterical fear and often ferocious brutality with which the ruling class resists those claims. The sweet reasonableness of the Fabians was no very serious threat. As Marxians have often pointed out, the banner of sweetness and light could never go very far; but when Marx raised the red flag of revolution, the seeds of a real class war were in the soil—a war which is even now carried on in many countries with medieval brutality. It would of course be unfair to hold Marx altogether or mainly responsible for this war, or for the ferocity with which it is carried on. In a crumbling capitalism, it was inevitable that the issue should arise, in something like its present sinister form; but Marx and his disciples are doubtless responsible for some of the ugliness of the conflict.

I confess that I have never thought of the New Deal as a child, step-child, or even an illigitimate child of *Das Kapital,* in spite of the assiduousness with which certain interests point out the lineage, and it is therefore difficult for me to take this question as seriously as Professor Rogin does; but I find myself in substantial agreement with the conclusions to which his analysis leads him. The New Deal seems to me to be generally an attempt to patch up the capitalist system so it will work to the satisfaction of a larger proportion of the people. In interpreting Marx, I should stress the theory of the revolution more than Professor Rogin does, but this makes the New Deal seem even less a result of Marxian influence.

JOSEPH J. SPENGLER: No extended comment is possible within the time at my disposal. Given his interpretation of the term "fetish," I admit the validity of Professor Leontief's rejection of Marx's accusation. Given a different interpretation, Marx's accusation remains valid in so far as modern value (i.e., price and distributive) theory is shot through with folklore, with beliefs and suppositions that are either unsubstantiated or false. For when Marx condemned bourgeois society as a "fetishism of commodities" in which all objects, events, and relations were deemed "natural" and unavoidable, and when he described the orthodox political economy of that society as theology, he apparently meant that orthodox political economy, a necessary epiphenomenon of the then existing set of economic relationships, was a kind of class apologia, or (in Paretian nomenclature) a class "derivation."

If one ignores for the moment the continued tendency of economic orthodoxy to slight social change and the hypotheses adequate to explain social change, one cannot quarrel with the methodological procedure per se of contemporary economic orthodoxy, with its postulation of certain intervariable functional relationships, of certain conditions of factor-mobility and competition, of certain physio-psychological attributes on part of consumers, workers, and entrepreneurs. But one must quarrel with economic orthodoxy's frequent preference of the fact-free air of post-decimal point stratospheres to the fact-thick mugginess of terrestrial realities; with orthodoxy's failure to check the factual validity of many of its assumptions and to recognize that the factual and logical validity of each postulated functional relationship is contingent upon the presence or absence of other variables and upon the nature of the socio-political milieu within which the variables exist.[1] When economic orthodoxy (or Marxian orthodoxy for that matter) uncritically absorbs that which has not been substantiated, it runs the danger of viewing the unsubstantiated as proven, of transforming it into folklore. This folklore will then have one or both of two effects: (1) it may blind the theorist and his disciples to the nature of socio-economic adjustment, adaptation, and change, as the theorist's sorry record of prognostications fulfilled well attests; (2) it may lead the theorist *qua* policy-formulator to advocate courses of action that are at variance with the needs of the times and impossible of successful effectuation, to assume the futile and unscien-

[1] It is of more than passing curiosity that economic orthodoxy devoted little attention to deviations from perfect competition until Sraffa, Chamberlin, Robinson, and others began to enshroud the obvious in new sets of geometrical curves. Marx was aware of the limitations to competition.

tific rôle of die-hard. In the second instance, at least, economic folklore has become theology in the Marxian sense. While it is obvious that these observations constitute no contribution to value theory as such, it is equally obvious that economic folklore smothers analytical and intuitive powers.

Neither speaker has referred to the problem of allocating resources correctly in a collective economy, presumably because this problm has been extensively treated in the past decade. While Marx recognized the problem, it was not squarely faced until the present century when Mises and Pierson suggested the insolubility of this problem under socialism. The resolution of the problem, moreover, has run in terms of marginalism, the Marxian apparatus of thought offering little if any direct aid. Unfortunately those who have sought solutions to the problem have somewhat incorrectly assumed with orthodox theorists that the consumer is and must be autonomous, a caster of dollar votes to which the configuration of the productive mechanism and the distribution of resources must conform. A strong case may be made, however, for the view that increased centralized control over consumption will reduce uncertainty, increase stability, and augment the sum-total of human happiness, whether the economy be collectivistic or shaped in accordance with the Chicago liberal plan. Liberal-Marxist controversy may yet inspire interest in this virtually ignored problem.

Marx's greatest contribution, as each speaker has indicated, lay in the field of social change, a field ignored in large part by economists and historians. He was not interested in the movement of factors and prices toward equilibrium in the Walrasian sense and did not therefore specifically raise the question whether or not equilibrium is possible, given productive factors whose very nature may be changed in the course of and in consequence of this search for equilibrium. Instead Marx concerned himself primarily with the long-run drift of interclass and interindividual relationships and with the shorter-run cyclical movements and power shifts which give direction to the long-run drift. He saw in class conflict the dynamic source of change. At the present moment two marked changes in thought are discernible: (1) the increasing use by historians of a kind of Marxian approach; (2) attacks on the historical understructure of Marxism by theorists such as Spengler who believed any culture inevitably condemned to decay and Sorokin who believes that all trends, however long, are certain to be reversed.

I infer from the remarks of the two leading speakers that neither has much use for dialectical materialism in the Marxian sense. Yet, as a reading of the neo-Austrians strikingly reveals, economic analysis divorced from the socio-political milieu in which economic relationships establish themselves is barren of practicality and insight. Is it not evident, therefore, that even though we reject dialectical materialism in the Marxian sense we must avoid the "ostrichism" of defining away problems by simply assuming to be constant, factors subject to imminent change. In other words, is it not necessary for us to ascertain: (1) the laws of change in the socio-political milieu; (2) the laws of change in economic realms such as innovation and its introduction, as the relative powers of classes, as the conditions that determine labor and capital supplies, and so on; (3) the relationships between (1) and (2) and the extent to which, if at all, these relationships emerge in nature.

Professor Rogin has shown the New Deal as a totality to have been both muddelheaded and anti-Marxian. Might he not have employed the Marxian mode of approach to demonstrate why the New Deal was and is so? J. B. Clark observed many years ago that an economy cannot survive half-competitive, half-monopolistic. Would not Marxian analysis applied to New Deal policies have supported Professor Clark's view?

It is regrettable that neither speaker has examined Marx's theory of social selection, or contrasted Marx's theory of the class struggle with Pareto's theory of the circulation of the élite. Can an élite ascend into power except through force? Is an élite a class phenomenon? To what extent will force preserve a minority in power in the face of mass opposition? In what respects are the marked changes in the nature of military equipment affecting class struggle theory? As posed, most of these questions may be meaningless from the point of view of operation. Nevertheless, they are of importance provided that one may assume the survival of even a modified private enterprise economy to be contingent upon the alteration of the present democratic selective process in ways designed to exclude the technically incompetent from positions of economic and political power.

THE RATE OF INTEREST

By RICHARD M. BISSELL, JR.
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The influence of the rate of interest upon investment is not a subject that calls for a venture into new and unexplored territory. Economists have been aware for a long time that a high rate of interest dampens investment and a low rate stimulates it. Any first-year book on the principles of economics explains why this is true and it can scarcely be necessary or interesting to go through the familiar proof of such a long accepted generalization again. Nevertheless, the subject of interest and investment is not only important but it is one on which there is much more disagreement at the present time than its secure position in the textbooks might seem to indicate.

Its importance is obvious. Practically all theories of foreign trade and most analyses of the trade cycle make use of the above proposition. For instance, an inflow of gold, if allowed to work itself out, is supposed to raise prices through its influence upon interest rates. But this, of course, implies that lower interest rates will stimulate investment and thus the general level of activity in a country and that this will in turn produce a rise of prices and costs. Trade cycle theories as diverse as those of Wicksell, Von Hayek, and Keynes consider a low rate a necessary condition for the high rate of investment which constitutes a boom, and without exception they treat the rate of interest as the obvious and most important instrument of control over the trade cycle.

Most writers are interested in the relationship of interest and investment because of the part that it plays in the trade cycle; in other words, because the effectiveness of any monetary policy depends upon the truth of the traditional generalization to which I have referred. Whether the objective of a central bank is to stabilize prices, exchange rates, or employment, the instruments of control with which it has to work can take effect on economic activity only via the money market and the capital market. Disagreement centers, therefore, on the issue of whether monetary policy can determine the rate of investment. In analytic terms the question is whether the traditional theory of interest and investment may appropriately be used in an analysis of the fluctuations which occur in the trade cycle. It is generally conceded that a low rate will have a stimulating effect on investment, in so far as it has any at all, but many economists criticize the traditionl view because it leads us to expect too much of monetary policy. More precisely, they suggest that the elasticity of the rate of investment with respect to the rate of interest is very low, so that a drop in the rate of interest will not have a substantial influence on the rate of investment. Those who advance this point of view will usually go further and add that the total

real income of the community and its rate of change are, in fact, the important determinants of the volume of investment, at least in the short run.

At this point there is a certain possibility of confusion, for there are two quite distinct relations between net investment and the total income of a community, only one of which is relevant to the present discussion. Mr. Keynes, and indeed most students of the trade cycle, emphasize the dependence of income upon investment through the action of the so-called multiplier principle. They contend that given the propensity to save, the rate of investment actually determines aggregate money income, so that any change in investment will induce a much larger but determinate change in income. This relationship, of course, plays a large part in any trade cycle theory and its nature is fairly well understood. But I am here concerned with the dependence of investment upon income which is a wholly different thing. Income, in Keynesian terms, is the same thing as aggregate demand, the sum of investment and consumption. It is obvious that investment depends, at least in part, upon the demand for finished goods. Therefore theories of investment which minimize its dependence upon interest usually emphasize the importance of aggregate demand, i.e., of income. The acceleration principle, for instance, is sometimes so stated that it is an extreme form of this view, which, in one shape or another, is held by most underconsumptionists such as Hobson, also by Harrod, Clark, and others. There is, of course, no question here of two positions clearly defined and completely incompatible with one another; but there is substantial disagreement on matters of emphasis and of degree. What is the relative importance of interest as compared with other variables as a determinant of investment? How great is the elasticity of investment with respect to the rate of interest? These questions seem to state the issue.

In this paper I wish first to discuss the nature and relationship of the several determinants of the rate of investment; then the concept of the rate of interest itself. My purpose in these sections will be to suggest that both the concept of interest and the theory of its influence upon investment must be modified before they are applicable under dynamic conditions. Next I shall consider the relationships between income and investment, particularly that one which is embodied in the acceleration principle. Lastly I shall venture several comments on the actual issue of the elasticity of investment with respect to interest.

I. *The Traditional Theory of Investment*

It is the great strength of economic theory that the response of the system as a whole to any change in price or quantity is always traced ultimately to the individual firm. In order, therefore, to discover what is actually involved in the traditional account of the relation between interest and investment it is necessary to go back and examine the reaction of an individual

firm to changes in the rate of interest. There are at least two theories of capital which may be employed for this purpose, but before plunging into the analysis it is worth noting that both are static equilibrium theories. Each develops and states the necessary and sufficient conditions for the equilibrium of an individual firm; in other words, each studies a firm in a static world in which the prices or conditions of supply of the factors of production and the price or demand curve for the product of the firm are given, and each theory shows how these independent variables determine the output of the firm and the amounts of the factors it will employ. It is convenient to distinguish two kinds of investment which a firm may undertake—intensive and extensive. When the method of production which it employs is altered in such a way that more capital is used in co-operation with smaller amounts of other factors to produce the same output, the investment which is undertaken is intensive. This includes cost reducing investment, and is, incidentally, the sort that is alleged to give rise to technological employment. In Mr. Hawtrey's terms it consists of "deepening" the capital structure. If, however, a firm merely expands (i.e., increases its scale of operations with a view to turning out a larger output in the future, but continues to employ the same method of production as before), then the capital structure has been "widened" and extensive investment has occurred.

The basic proposition of traditional theory is that both kinds will be stimulated by a fall in the rate of interest. In Marshallian terms, a firm is in equilibrium only when long-period marginal cost, as well as intensive marginal cost, is equal to price, and when the factors are employed in such proportions that the ratio of their marginal productivities is equal to the ratio of their prices. (Long-period marginal cost is, of course, the cost of increasing output by means of a balanced increase in both fixed and variable factors, whereas intensive marginal cost is the cost of increasing output without any change of plant.) A drop in the rate of interest unaccompanied by changes in any of the other variables will not affect intensive marginal cost appreciably and therefore will not lead directly to any change in the short-run adjustment. But it will lower long-period marginal cost and thus make an expansion of the plant profitable or more nearly profitable. Also it will induce a change in the proportion in which capital is combined with other factors.

It is slightly more difficult to go through the reasoning in terms of the Austrian theory of capital, because the Austrians themselves have never deigned to apply their theory to the individual firm or to any unit smaller than an entire system. But since this gap has been filled by the work of English and American writers in the Austrian tradition, such as Gifford, Hicks, Boulding, and Hart, the line of reasoning is clear. In a vertically integrated firm, which is the most appropriate unit to pick, the roundabout-

ness of production, i.e., the average period between the input of factors and the appearance of the product which may be imputed to them, depends solely upon the rate of interest. A drop in the rate, other things remaining the same, will induce the adoption of a more roundabout method of production by raising the discounted marginal productivity of resources invested for a long period more than that of those invested for a short period. It will also induce a general expansion of output because it raises the discounted marginal productivity of all resources invested for any considerable period of time. The total change in adjustment is, therefore, certain to involve a mixture of intensive and extensive investment.

What the static theory of capital in either form says then, in effect, is that if both the conditions of supply of the factors of production and the demand for the product of a firm are expected to remain constant, a fall in the rate of interest will induce an act of investment.

Even this conclusion is only the foundation for a theory of investment, not its substance, because what we are interested in under dynamic conditions is the rate of investment. However, it is not difficult to derive a sort of dynamic theory from the static theory of a single firm, for it tells us that not only a fall in the rate of interest but a drop in the prices of other factors or the appearance of a new invention will lower a firm's long-period marginal costs and thus induce investment, and that extensive investment is even more certain to follow an upward shift of the demand for the final product. It is, therefore, perfectly easy on the basis of static equilibrium theory to explain continuing investment by a firm without assuming a steadily falling rate of interest. But, in order to do so, it is necessary to make certain assumptions (as all dynamic theories do, tacitly or explicitly) about the demand for its product and the supply of factors of production.

This is an appropriate place to shift the attack and find out what these conclusions mean for the system as a whole. They imply that if a rate of investment is to be maintained, income and thus aggregate demand (both measured in terms of wage units) must be increasing, so that individual firms are faced with expanding markets and will have an incentive to increase the scale of their operations, or there must be a rate of invention and a stable aggregate demand so that businesses will be induced continuously to change their methods of production without contracting their output, or both. This proposition follows as a necessary consequence of static theory. Of course it does not deny the influence of the rate of interest, but the important point is that even in this highly abstract treatment, which pretends to be merely an extension of static equilibrium theory to cover the dynamic case, it has appeared that interest is merely one of several independent variables, and that the rate of change of income and the rate of invention have at least as much to do with investment as has the rate of interest.

It has already been suggested that the critics of a static theory of investment attach much more importance to the rate of change of income as a determinant of the rate of investment than to the rate of interest, and the above conclusion constitutes a partial justification of their view. As yet, however, we have not considered the most important element which has to be introduced into any static theory before it can be used in the analysis of dynamic phenomena; namely, the element of uncertainty. When uncertainty is present, I assume not only that businessmen are uncertain about the actual future course of events but that they are certain most of the variables which enter their calculations, notably costs and demand, will vary over a wide range. There are several ways in which this state of mind is bound to modify the nature of investment decisions.

In a world in which aggregate income is expected to increase in a steady and regular manner so that the demand curves of individual firms may be counted on to move smoothly to the right, it is legitimate to carry over from static equilibrium theory the notion that each firm will be able to calculate its costs for various scales of operation with considerable accuracy and that it will steadily expand its plant as demand grows. In this case, the real question is not whether expansion shall take place but when. It concerns the timing of necessarily discontinuous increases in plant and equipment. Obviously a change in the rate of interest which changes all cost curves may have a decisive influence on the investment the firm will undertake. A lowering of costs will make more rapid expansion profitable because it will permit lower prices or higher selling costs and thus a more rapid growth of output.

If, on the contrary, this firm is uncertain about the future, and can be sure only that the market for its product will neither remain unchanged nor expand steadily, its calculations are far less determinate. The businessman may still know exactly what scale of plant is best suited to any given output, but not knowing what ouput he is going to be able to maintain in the future, he can only base his plans on an estimate of average conditions. Under these conditions, the certainty with which any investment decision can be made is greatly diminished; so the effect of a given change in cost conditions becomes indeterminate.

Uncertainty has an even more specific effect upon a firm's decisions regarding intensive or cost reducing investment. Since such investment involves merely a change in the proportions in which the factors are employed it must necessarily, in the absence of uncertainty, be stimulated by a fall in the rate of interest and vice versa, because a change in the rate of interest merely amounts to a change in the ratios of the prices of the factors. But under dynamic conditions a wholly new element enters the problem. As a rule, an act of intensive investment, because it consists of the displacement of other factors by capital, will lower total cost of produc-

tion only by reducing variable costs more than it increases fixed costs; that is to say, it will make the cost structure of an individual firm much more rigid than it was before.

This characteristic of intensive investment is comparatively unimportant when the future is known and stable, because flexibility of cost does not then yield any great advantage. A firm will be interested only in finding the cheapest method of producing the known future output. But, obviously, when future output is highly uncertain, and when fixed costs will certainly prove to be a heavy burden in periods of low output, flexibility of cost is highly desirable and the sacrifice of flexibility involved is probably one of the main deterrents to intensive investment. In this way, then, the rate of intensive investment comes to depend upon expectations which from their very nature are uncertain and introduce indeterminacy into the decision. Income need not be expected to increase steadily, but if it is not expected to remain at least fairly stable, only those changes in methods of production that are certain to reduce costs very heavily will be adopted. Thus, under realistic dynamic conditions, there will not be an accurate division between improvements which are just inside the margin of profitability and those just outside and, therefore, there is no reason to believe that a lowering of the rate of interest will, by itself, induce businessmen to undertake a certain determinate amount of intensive investment which they would not otherwise have been willing to undertake.

The change in the nature of these decisions has serious implications for the elasticity of investment with respect to interest. For one thing sheer indeterminacy is bound to make investment less responsive to small changes in the cost of capital. When no one can determine within a wide range which of two or more possible courses of action will turn out to be the more profitable, it will take a larger change in their relative attractiveness to sway the decision than if all the factors were accurately known. But there is an even more important consideration. If market conditions and prices of factors and raw materials are apt to fluctuate widely, they will in fact have much more to do with the success of any given investment than the rate of interest. Consequently firms will not, as in static or stable conditions, take the market environment as given, initiate improvements as soon as they become profitable, and therefore change both the amount and the timing of their investment in response to changes in interest. Instead they will in many situations take interest, quantitatively the less important variable, as given, decide upon only those projects which are profitable at some conventional rate of interest, say 5 or 6 per cent, and adjust their timing with reference to short-run expectations purely. In so far as this is true at any particular time, the short-period elasticity of investment will be much lower even than its long-period elasticity. In other words the immediate response to changes in interest rates will be smaller even than the

ultimate one. In the short-run changes in expectations, based in part upon the level of income and its rate of change, are likely to overshadow changes in the rate of interest in their influence upon investment.

This whole discussion has led to two conclusions. First, even a theory of investment based on static equilibrium analysis must concede that the rate of investment depends explicitly upon the rate of invention and the rate of change of income in terms of wage units (i.e., the rate of change of the ratio of money income to money prices of factors), as well as on the rate of interest. Second, under dynamic conditions the short-period elasticity of investment is usually less than in a stable or static economy. These two conclusions lie at the bottom of most objections to the traditional view that the rate of interest is an adequate control of the rate of investment and thus of the general level of economic activity in a developing community.

II. *The Concept of the Rate of Interest*

The foregoing examination of what I have called the traditional theory of investment shows that it requires modification before it is used to analyze dynamic situations. The same remark may be made about one of the concepts upon which any such theory depends.

Monetary theory as well as equilibrium theory is full of references to a quantity called "the" rate of interest. Of course everyone realizes that there are, actually, as many rates as there are forms of borrowing and that it is by no means always legitimate to group them together. Nevertheless, it is often convenient to speak of "the" market rate, and the term has an honorable history. To my knowledge no one has troubled to define it precisely, but its accepted meaning is reasonably clear. It is not supposed to be one particular rate (such as the return on government bonds) more significant than any other, but rather a composite or average of all the various rates ruling at any time. In static equilibrium theory, where uncertainty does not play a large rôle, interest is treated as the market price of capital, of which a firm may borrow as much as it wishes simply by undertaking to pay this price. For this purpose it is not important to emphasize the dependence of the cost of capital upon its source and upon the position of the firm for which it is raised. For instance, equilibrium theory usually takes it for granted that the interest foregone on capital saved out of profits will be equal to that which would have to be paid on funds raised in the open market, so that the same rate applies to both. Again, quite properly any long-period equilibrium theory pays little attention to the credit positions of individual firms, because if we wait long enough and if there is no uncertainty, any profitable investment will be undertaken. The cost of capital to a well-placed borrower and the expected return on the investment are the only significant quantities.

Under static assumptions, therefore, an average of various ruling interest

rates is a suitable index of the availability of capital throughout the economic system, and this, surely, is precisely what the composite "market rate" of monetary theory is supposed to be.

However, when we are interested in the short run and the rate of investment, not merely in static equilibrium conditions, it is doubtful whether any such average is a suitable index. Actual interest rates may be extremely low at a time when capital is not, in any sense of the word that is relevant to the decisions of businessmen, readily and cheaply available throughout the community. The cost of capital, especially to small businesses, depends obviously upon the willingness of lenders to assume risk and thus upon both the kind of borrowing that is in prospect and the borrower. There have been occasions, for instance, when the yield on gilt-edge securities as well as on short-term paper was low but when it was almost impossible for small firms or corporations not already in possession of large reserves to obtain funds. It could scarcely be said that under these conditions capital is easy to obtain merely because the pure rate of interest is low.

Not only does uncertainty have this very well-known effect upon the cost of capital by making lenders less willing to lend, it also enters in a slightly different and more subtle manner into the calculations of the potential borrower. One of the main deterrents to investment in a dynamic system, as I have indicated above, is that it diminishes the flexibility of costs. Therefore, if investment can be financed in such a way that no new fixed costs are incurred, say by the sale of equities or by the reinvestment of profits, it is in a real sense cheaper than it would otherwise be.

It may be sufficient for long-period equilibrium theory that we know the cost of capital to a well-placed borrower, i.e., the pure rate of interest. But for both the above reasons this figure has limited relevance to a short-period theory of investment. In certain phases of the trade cycle very few potential borrowers are well placed. We may have known in the early part of 1932 that, given the existing pure rate of interest, many firms could profitably have replaced obsolete or worn-out equipment, and that sooner or later they or their receivers in bankruptcy would find it desirable to undertake investment. But this bit of information was rather cold comfort. In so far as the state of the supply of capital had anything to do with the rate of investment at that moment, its influence could only have been calculated if all its components had been taken into account.

Since economists do make use of the abstract concept, "the rate of interest," and since it has only a limited relevance to investment decisions unless it really measures the availability of capital, I suggest that it might well be given a broader definition. This is hardly the place to attempt to do so but at least it is clear that the rate of interest should be regarded frankly as an index of the supply of capital. It ought to move not only with the rate of interest on bonds but the return on equities. When, at the end

of a depression, capital cannot be obtained for many admittedly profitable uses because the credit of potential borrowers has been impaired, an index which varies inversely with the availability of capital should be high. Similarly, it might reflect certain institutional changes which affect the nature of the supply of capital. For instance, since the undistributed profits tax has doubtlessly had the effect of making capital less available to small firms which do not have access to the organized capital markets (many of which do not have the option open to large corporations of financing investment by marketing their own securities instead, perhaps, of selling securities from their own reserves), the index should register a change showing higher cost of capital.

Perhaps these examples give a sufficiently clear impression of the redefinition I propose. There are obvious objections to the procedure, and nothing is further from my mind than to suggest, in the manner of Mr. Keynes, that it is easier to rewrite economics so that it will fit a new definition than to select a definition which will fit into the existing language of the subject. In this case, I feel that the broader definition is already implied and is necessary in present monetary theoretical discussion. If it is adopted, then the influence of interest must be admitted to be greater than it is sometimes said to be. We would have to say, for instance, that the rate is high, not low, in a depression when lenders are fearful of anything more dangerous than government bonds, and that this is part of the explanation of the low rate of investment. If it is not adopted, the subject of this paper will have to be divided in two. We would have to ask, first, what effect interest has on the actual availability of capital and, second, what influence the availability of capital has on investment. In what follows I will be concerned only with the second question.

Two conclusions have emerged from this examination of traditional theory. The static theory of investment (this phrase may involve a contradiction in terms but I hope its meaning is clear) must be modified to fit dynamic conditions, and there is reason to believe that under these conditions the elasticity of investment is lower than it might suggest. The concept of the rate of interest also requires redefinition in order to make it a serviceable concept in a dynamic theory of investment. In the remaining sections of this paper I wish first to examine the relation between income and investment as it is described in the so-called acceleration principle (and, incidentally, to dispose of the view that the rate of investment is dependent solely on the level of consumption); then to attack more directly the question of the elasticity of investment with respect to interest.

III. *Investment and Income*

The acceleration principle, which is such a useful instrument of analysis when carefully used, becomes when it is stated in a naïve and oversimplified

form an embodiment of the opinion that interest has nothing to do with investment. Properly set up, it only establishes and emphasizes the existence of a relationship between investment and the rate of change of income. But occasionally the proposition is advanced that investment (a term which I use in Mr. Keynes's sense to refer to net additions to capital) is a constant multiple of the rate of growth of consumption; so that, in Mr. Harrod's words, "if consumption were advancing at the rate of 2 per cent per annum only half as much net investment would be necessary as would be required to sustain an advance of 4 per cent."

When the principle is stated in this form, and without many of the reservations and conditions which, it is only fair to say, Mr. Harrod would attach to it, the critic must be embarrassed by the wealth of error it contains. To begin with, there can be no conceivable reason for taking as the independent variable to be emphasized the growth of consumption instead of the growth of aggregate income. Surely there is no need to labor the point that investment is possible in the capital goods as well as in the consumers goods industries. If for any reason whatever the rate of investment is itself changing continuously or if it has recently undergone a discontinuous change (and it is in one of these positions at all times during the trade cycle), then net investment in the capital goods trades themselves will not be zero, and investment in the community as a whole will not be a multiple simply of the growth of consumption. Another way of stating the point is that a certain percentage change in the growth of consumption, say a rise from an increase of 2 per cent to one of 4 per cent per annum, will at first produce a more than proportional change in investment. In this case, for instance, investment will, initially, be more than doubled after the rise because investment in consumer goods industries will be doubled (according to the reasoning of this theory) and some investment will occur in the capital goods industries where there has been none before. Once the new rate of advance has been established, it could be sustained by just double the previous amount of investment, but this does not conceal the error in the theory as stated.

The most this theory can prove is that a constant volume of investment will be associated with any given stable rate of growth of consumption once it has become established. But, for an analysis of the trade cycle this statement would not be sufficient even if it were true. Both of the quantities mentioned fluctuate violently in the course of a cycle. What we require is a more nearly instantaneous relationship that will show what determines the rate of investment at a moment of time, when the growth of consumption is itself varying. For this purpose the growth not of consumption but of aggregate income is obviously the appropriate independent variable.

With this difficulty ironed out, the way is open to a mention of several

reservations which have to be attached to the naïve form of the acceleration principle if it is to be a valid description even of the relationship its authors have in mind. Of these, the most important is that a positive rate of change of income will not induce a particular rate of investment unless industry is operating near capacity. The point is familiar enough, but its importance for the acceleration principle is by no means always realized. In the early stages of recovery there is bound to be extensive excess capacity. Under such circumstances the expectation that investment will become profitable sometime in the near future may be enough to halt disinvestment and to exercise a vaguely stimulating effect. But when output could be increased by 50 or 100 per cent in most parts of the industrial system without any expansion of plant, there is, surely, no simple arithmetic relationship between the rate of increase of income and the rate of investment; increasing income does not yet apply any pressure that will induce firms to increase capacity. Here again the general idea that the authors of the acceleration principle had in mind is quite clear, as it is that they are again confusing short- and long-term considerations. If the rate of increase of income which has started in a recovery period continues long enough and is to be sustained indefinitely, then of course there will have to be a steady rate of investment sooner or later. But if this is all the principle means, then its application is at once limited to analysis of only the very late stages of a period of prosperity.

In other and more analytic terms, for many values of the variable "aggregate income," investment is not determined uniquely by the derivative of income alone, and probably not even by income together with its derivative. The significance of this conclusion for the theory of investment is obvious. Even accepting at its face value the validity of the relationship which the acceleration principle is supposed to express, it turns out to be a long-period theory of investment. It says that if the secular trend of income is upward at a fairly constant rate, then, on the average, a certain rate of investment must be maintained. It may be useful in short-period analysis of the crest of the trade cycle when equipment is fully employed. But it does not tell us much about those variations of investment around the trend which constitute the trade cycle, and it certainly does not explain these short-period movements so well as to leave no place for the rate of interest as an independent variable.

Only rarely is any attempt made to employ the same principle to analyze disinvestment. Formally it should be true that a determinate rate of disinvestment will be associated with any given rate of decrease of income. The limitations on this proposition are rather similar. Just as a rate of growth necessitates a rate of investment, assuming full capacity, so a rate of decline determines the rate of disinvestment which will prevent the appearance of excess capacity. In fact, of course, the rate of disinvestment

never is fast enough to accomplish this purpose or to prevent firms from making losses even in those cases where production is not cut down. When income has declined quickly enough to bring losses and idle plant, the incentive to disinvest is just as loosely dependent on the rate of change of income as it is when recovery has not yet turned losses into profits or brought idle plant back into use. The rate of disinvestment is determined in such a situation partly by expectations of the more distant future when the move may have reversed itself and partly by the technical possibility of using up capital goods, which is the only way disinvestment can take place.

So far I have called attention merely to the independence of output variations and the rate of change in the amount of fixed capital when income is low, but it cannot be emphasized too often that quite aside from changes in the method of production the whole connection between the demand for finished output (Mr. Harrod's "consumption") and the derived demand for capital goods is a complex one. Even in a boom period when excess capacity has been absorbed, a rate of expansion of aggregate demand does not have a determinate effect upon certain kinds of investment. Firms usually have several options open to them other than that of expanding plant when increasing demand brings pressure on their facilities. They can often increase output well beyond the designed or normal capacity of their plants by using them more intensively or by using marginal equipment which is kept to meet peak demands. This procedure is apt to involve an increase in costs which could be avoided by the purchase of more equipment, but if there is any real deterrent to investment, an increase of output may well be provided in this way. If output cannot be expanded, if, in other words, short-period marginal cost curves are very inelastic, there is always the option of meeting increasing demand with proportionately rising prices.

A moment's reflection will suggest that there are at least two deterrents which could effectively halt investment and produce one of these results The first is uncertainty. If the expansion of the market is expected to be only temporary and if businessmen are afraid of future fluctuations in demand, firms may not undertake investment in response to expanding demand, even when on the basis of existing conditions it would be profitable. The fact that investment decisions are undertaken on the basis of estimates of a long period in the future is enough by itself to dispose of the naïve acceleration principle. No one has yet solved the problem of relating businessmen's expectations of the future to present prices and quantities and their history, but it is doubtful if they depend on anything so simple as the derivative of income or consumption. In a sense the acceleration principle is a disguished theory of expectations, and only when we have a workable one will we know exactly how radically it will have to be modified on this particular ground. The other possible deterrent is, of course, a high rate of interest. If capital is sufficiently difficult to obtain,

or if alternative opportunities for using it are sufficiently attractive, even improvements that could earn a high rate of return will be left unmade. This does not mean that a high pure rate of interest will always be enough to restrict investment. If capital can still be raised cheaply through the sale of equities or if poorly secured long-term bonds and mortgages can be sold easily even if at rather high rates, then the restrictive effect may be negligible. This is a place where the modified concept of interest is the only serviceable one.

So far in this discussion of the acceleration principle I have endeavored to accept what I conceive to be its underlying reasoning. Its authors begin by presupposing a close correspondence between the rate of change of output and that of demand. They then find a connection between investment and the growth of output, i.e., of capacity. Thus the principle itself breaks down into two propositions: first, that the growth of demand and of capacity are equal (it is to this one that my previous criticisms apply), and, second, that the rate of investment is a constant multiple of the rate of change of capacity. This second is what I shall refer to as the underlying proposition of the acceleration principle. Stated in the above form both the reasoning that lies back of it and the objections to it are reasonably clear.

First and most important, it disregards the possibility of intensive investment entirely; in fact, it amounts to the assumption that there is no such thing. Intensive or cost reducing investment is defined as that which is not undertaken to increase output. As I have shown above, its volume is not independent of income, by any means, but there could perfectly well be a rate of intensive investment with a constant or even with a slowly declining aggregate income. It must be expected that income will in the future be fairly constant or that it will change smoothly. Although this condition implies a dependence upon the derivative of income, it has no similarity whatever with the relationship expressed in the acceleration principle. Intensive or cost-reducing investment is undertaken to reduce cost. It will be undertaken so long as conditions are such that the sacrifice of cost flexibility will not be too serious. It does not require an expanding, but merely a predictable, market.

It is, however, rather too academic for this purpose to separate intensive and extensive investment rigorously, because an act of investment usually alters both output and method of production. Frequently a firm, when it requires greater capacity, will have the option of expanding its plant in several different ways. Some of the possible changes will be more costly than others but will permit operating costs to be lower or will have other compensating advantages. When the method of production is a variable in the problem, the amount that will be invested in providing any given increase in capacity is obviously not fixed. Therefore, a given rate of change of capacity does not determine uniquely a rate of investment. The kind

of new equipment a firm will buy depends in major part on the probable stability of output and on the rate of interest, in the broad sense. Both of these quantities, therefore, are among the determinants of what would usually be regarded as extensive investment.

There is another kind of investment which is of great importance in the trade cycle and to which the proposition underlying the acceleration principle clearly does not apply. That is the reinvestment undertaken during a recovery to offset disinvestment which has occurred during the preceding depression. The disinvestment I refer to usually comes about because equipment is undermaintained and replacement is put off. The reinvestment, which, when it takes place, is net investment on Mr. Keynes's definition because it is increasing the capital equipment of the community (not merely covering current supplementary costs), does not involve a rate of change of capacity. It is, of course, undertaken partly in response to an expectation about income, e.g., that income is going to return to some previous level. But this relationship has little to do with the connection between investment and capacity which is at the bottom of the acceleration principle. And here, again, the availability of capital is an important determinant. If, after a period in which capital has been consumed, a firm finds itself, say, in possession of idle balances on which it can earn only a very low return, and if aggregate demand is not expected to decline further, it is quite likely to catch up on arrears of depreciation and to undertake minor improvements simply because the opportunity cost of capital is so low. This point is of considerable significance for the theory of investment, because it suggests that in a period of stagnation at the bottom of a depression, the availability of capital may exercise a decisive influence on the rate of investment.

I conclude that what I have called the underlying proposition, which asserts that investment depends exclusively on the rate of change of capacity, is false. It should be clear enough that this still further invalidates the naïve form of the acceleration principle. What has been the bearing of this discussion on the theory of interest? The following conclusions emerge from it: The reasoning of the acceleration principle cannot be used to prove the exclusive dependence of investment upon the first derivative of income (still less upon that of consumption). All that it can do is to establish the existence, importance, and general character of the relationship between them (which I have been at pains to emphasize throughout this paper). Of course it is safe to infer from what is known about this relationship that the output of capital goods is likely to fluctuate more widely and sharply than that of consumers goods, which is all that responsible writers have tried to prove. For the derivative of income is an independent variable; so changes in the rate of growth or decline of income will tend to affect the absolute volume of investment. However, it has also appeared that this relationship suffers from all the indeterminacy of that between investment and interest. Practically all that can be proved in general terms is that

investment varies directly with income and its first derivative as it does inversely with the rate of interest.

IV. *Investment and Interest*

In the previous sections I have discussed the traditional theory of investment, the concept of the rate of interest, and the relationship of income and investment. In one sense the results have been purely negative. The only positive conclusions it has been possible to reach are those same generalizations which, as I said at the opening of this paper, are to be found in any elementary textbook. There is not the faintest trace of novelty about them. The one other point that stands out clearly from all the analysis is that under dynamic conditions there is a considerable indeterminacy in the relationship of investment to existing prices and quantities because it is their probable future values that dominate businessmen's decisions. What this implies is that there is no real meaning to the question: how elastic is investment with respect to the rate of interest? This elasticity will vary so much from one phase of the trade cycle to another, and perhaps secularly as well, that the interesting problem is how and at what times it will be high. Therefore, such positive observations as I propose to make on the relationship of interest and investment can only be comments on the particular situations and ways in which interest, in other words, the availability of funds, may still be an effective regulator.

To begin with, it would probably be agreed that when aggregate income in terms of wage units is dropping, especially if it has been doing so for some time, the rate of interest can have little or no stimulating influence on the rate of investment. Such investment as does occur under these circumstances is almost entirely of two kinds. In part it is that which is involved in the completion of projects already started or at least previously decided upon. For instance, much of the construction undertaken after a decline has set in (such as that which occurred in New York City during 1920) is of this character. There is bound to be a certain number of large projects in process at the beginning of a depression which require a long time for their completion and which it is more profitable to carry through even on a falling market than to abandon half finished. Since this kind of investment is being carried on only because of previous errors of judgment, it is clear that no practicable lowering of the rate of interest will increase its volume. The reverse, however, is not true. These unfinished projects may be quite sensitive to any sharp rise in the rate, especially if it means that funds have become almost unobtainable because of general lack of confidence. Mr. D. H. Robertson is fond of quoting as an example of the kind of investment which is prevented by high rates the case of the unfinished Cunarder *Queen Mary,* upon which work was stopped for two years because the nearly bankrupt steamship company could not finance it.

The other place where investment may continue during the decline is in in-

dustries which are undergoing so rapid a development relative to others that their absolute expansion continues even when aggregate income is falling. Certain branches of the chemical industry in this country, for instance, were in this position during the great depression. Here, again, the guess may be hazarded that the elasticity of the rate of investment is very low indeed. Expansions or improvements of plant will not be undertaken in the face of declining activity unless they are virtually certain to prove profitable. In other words, the prospective rate of return on new equipment must be well above the conventional scale of interest rates anyway, if it is to be constructed at such a time, and nothing short of a restrictive policy which makes capital highly unavailable is likely to affect investment decisions.

The implications of this conclusion for monetary policy during a decline are fairly obvious. If interest rates continue punitively high and funds are allowed to become virtually unobtainable for some time after a decline has set in, the decline will almost certainly be made more precipitous. On the other hand, the most that an easy money policy can hope to accomplish is to strengthen the cushioning effect of the kind of investment described above. It is almost inconceivable that a decline, once well started, could be reversed merely by making capital cheap and available to potential borrowers.

When aggregate income is rising, no such general conclusion can be stated, because, I submit, there will be so much difference between the elasticity of investment when income is still low, i.e., during a recovery, and when it is high enough so that industry is operating at nearly full capacity. Again, it is necessary to consider the types of investment which are likely to dominate in the two situations. In the former, if the recovery is well started, it seems reasonable to assume that businessmen will expect a considerable period of steadily expanding or at least stable markets. At the same time there is bound to be a considerable amount of excess capacity throughout the system; so that, as we have seen above, expanding income is far from making extensive investment imperative. These circumstances are highly favorable to intensive investment, to purchases which are required to make up arrears of depreciation, to housing (which falls largely in the latter category), and to extensive investment which looks to the fairly remote future. All of these activities, I suggest, are, relatively, very sensitive to changes in the availability of capital. This is so, partly because, given a reasonable expectation of stability, the cost of capital can have a decisive effect on their profitability (particularly so far as cost-reducing investment and housing are concerned), mainly, perhaps, because the principal decision which has to be made about all these activities concerns their timing. A low rate, especially if it is expected to rise as recovery proceeds, may lead many firms to undertake these types of investment sooner than they otherwise would, even if it does not open up hitherto nonexistent opportunities.

The Pennsylvania Railroad electrification is the sort of project that would be affected, and the British housing boom certainly depended in part on easy money. Thus I would expect the rate of investment to be quite highly elastic in both directions with respect to the rate of interest in the early stages of recovery, probably more so than in any other phase of the trade cycle.

Turning to the case in which excess capacity has been absorbed and income is still rising, a very different picture must be recorded. For one thing, it is probable that here the upper limit to the rate of investment will be set by rising costs and limitations of physical capacity in the capital goods industries. Thus investment defined in real terms cannot respond to a lower rate of interest, and investment in money terms, say in terms of wage units, will be extremely inelastic to a drop in the rate of interest. Any increase in the demand for capital goods will call forth a sharp rise in their prices or a refusal to supply them, which will immediately reduce the marginal efficiency of capital. The contrast with the other cases is worth noting. When income is either declining or still low in a recovery, there is apt to be excess capacity in the capital goods industries.

For somewhat different reasons a rise in the rate is also likely to be ineffectual. When income is high and still rising, the relationship expressed in the acceleration principle comes into its own; expanding markets do make extensive investment profitable and necessary. There is no doubt that if capital can be made costly and difficult enough to obtain, even in this type of boom the rate of investment can be controlled but it is apt to be highly inelastic, and discontinuously so. A small rise in the cost of capital is likely to have no effect upon it whatever. Yet a rise sufficient to exercise real influence may break the capital market entirely and start a decline that cannot be controlled. It may be said, then, in general, that under boom conditions the rate of interest is an unsatisfactory regulator, although it will serve to restrict the volume of investment if used sufficiently drastically. Perhaps the major difficulty here lies in making funds really costly no matter from what source they are secured. A buoyant stock market can offset high, long-term rates very completely.

There is one type of situation which remains to be considered. Most of the foregoing remarks apply to periods in which the direction and rate of change of aggregate income is well established; that is, to a decline once started or to a recovery and boom. But often just after the summit of a period of prosperity has been passed and usually in the trough of a depression there is what Mr. Harrod has called a breathing space in which the rate of investment is fairly constant and the influence upon it of income and the derivative of income is not clear. At such times as these, I suggest, the rate of interest may be able to accomplish a good deal.

The arguments which apply to the period of stagnation at the bottom

of a depression need not be rehearsed here. Once the decline in income has been definitely halted, a phase sets in which cannot be distinguished accurately from the early stages of recovery. Investment is likely to be elastic for exactly the same reasons as in the latter case. However, the period of hesitation just before a decline sets in is quite different. Investment will have ceased to grow or will perhaps have fallen off a little, especially if one or more new industries whose rapid development has led the preceding advance have reached their full size. (For example, the drop in automobile sales in the summer of 1929 was probably symptomatic of such a situation.) On the other hand, there will still be a large cushion of uncompleted projects and unfilled orders, and consumers' incomes will not have started to decline. Thus aggregate income will not be exerting the decisive influence upon investment that it does when decreasing rapidly, and there is a real chance that a sharp lowering of the rate of interest will take effect. It is not likely to stimulate further expansion of the industries whose relative development is slowing down, but it may open up other opportunities and direct investment into new channels. If this reasoning is correct, then this is another point in the trade cycle where the elasticity of investment may be considerable.

Nothing could be more evident than the hazardous nature of these speculations about the effectiveness of the rate of interest, especially of the last one. Yet, from the very nature of the subject, no more definite and substantial observations could be expected. The results of the earlier sections of this paper can be summed up in three conclusions. First, that the short-period elasticity of investment will be lower and more variable under dynamic than under static or stable conditions. Second, that the concept of the rate of interest should be broadly defined, because it is of relevance to the theory of investment mainly as an index of the availability of capital. Third, that the relationship between investment, income, and the growth of income is affected with the same sort of indeterminacy as that between interest and investment. To these it may now be possible to add the two positive generalizations from this last section: that the rate of interest is likely to be a useful stimulant only in two phases of the trade cycle, and that at all times it will be more effective in lowering than in raising the rate of investment.

SECURITIES MARKETS AND THE INVESTMENT PROCESS

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Many popular economic simplicities are as dangerous as they are engaging. Without necessarily denying the essential truth in these widely-held postulates, the economist can both enrich and give practical significance to his science by exploring and evaluating the important qualifications imposed by the ever changing processes of a real world. Thus, economics becomes a science of qualifications. For example, it has usually been assumed that when industry needs outside capital for an indefinite or long period it goes into the securities markets, and for a definite and short period it goes into the commercial banks. The distinction here indicated may be convenient and serviceable as a preliminary postulate, but the exceptions or qualifications thereto furnish indispensable clues for comprehending the methods by which industrial investment is really effected. Moreover, these qualifications suggest what seem to me some of the significant reasons why the economic system has not always worked of late years in accordance with textbook routines.

Unfortunately the means of expression available to the economist are as much common property as the overworked pencil in a post office. And so each one of us generally insists on doing a little sharpening of his own. But the term "investment" does need sharpening. By it, the layman means an investor's use of capital to obtain property from which he expects to derive an income. But the economist has come to mean by "investment" industry's use of capital to expand productive equipment The following questions suggest some of the principles which might be followed in narrowing the term, as the economist employs it. Should an undesigned increase in the economy's inventories of finished goods, caused by a sudden slump in business, be considered evidence of investment? Can inventories, which are in volume approximately equal at the beginning and end of a period of rising prices, be used to indicate increased investment? When a corporation borrows in a commercial bank or in the securities markets and keeps the bulk of the funds acquired in idle bank balances—even though these funds be designated "working capital"—has the corporation "invested" the borrowed capital? Keynes's definition of investment seems to imply a positive answer to at least two of these questions, all of which I rather think should be answered in the negative.

At the outset we promised that we would furnish significant corollaries to the generally accepted proposition that industry obtains in the security markets the outside capital it needs for the expansion of its permanent productive equipment and from the commercial banks manufactured capital for the financing of pay rolls, inventories, and for other temporary uses.

We shall find that industry has been allowed to use bank-created capital for permanent improvements, which perhaps should have been financed out of prior savings, and to employ the proceeds of security issues for working capital, which commercial banks could have furnished.

In order to explore these miscarriages of capital disposal, we must first inquire into what happens to the proceeds of new issues, which are popularly believed to flow through the securities markets directly into industry. Since only a small part of the proceeds of new issues eventuates directly in investment, we must examine, and consider the effects of, some of the many unsuspected emergences of the capital flow when it fails to directly affect investment. Next we shall turn to the various channels through which bank-created capital reaches industry. Extension of such capital to industry directly through ordinary commercial loans is one thing; induction of such capital into industry through the securities markets, via the margin trader, or through loans to businessmen who use securities as collateral may be something very different. We shall learn that the margin speculation of nearly a half-million Americans has significantly affected the method by which American industry has been financed. This will prepare us for consideration of the extent to which the federal government controls, or should control, the flow of capital into industry and the investment process.

I. *Proceeds of Security Issues*

The postulate that industry obtains in the securities markets funds for use in expanding productive equipment is sometimes assumed to imply that all the proceeds of new issues go directly to the issuing corporations. Analysis of the proceeds of new issues during the last decade will show that a relatively small part of the funds obtained from security flotations have evenuated directly in "investment" or "capital-goods formation." My curiosity with respect to the specific use of such proceeds led me, while I was economic adviser to the Securities and Exchange Commission, to have a detailed examination made of the purposes stated in the prospectuses of all issues of any size during 1927, 1928, and 1929. The figures, which I hope to publish in the near future, show that only from 7 to 12 per cent of the total proceeds of new issues were used during those years for expansion of the issuing corporations' plant and equipment, although another 8 per cent was used by them for the outright purchase of existing plants from others. In 1929 over 38 per cent went to investment trusts, holding companies, and financial companies, and nearly 16 per cent was for refunding. Even larger percentages, 30 per cent and 26 per cent, were for refunding in 1927 and 1928. In short, when one hears of the ten and eleven billion dollars of new issues for 1928 or 1929, that does not mean that issuing corporations received directly or used any such sums for expansion of productive equipment. Nevertheless, even if we make deductions for

foreign, investment-trust, and refunding issues, we find that the funds acquired by industry during those years were in excess of what it used for plant extension.

The more accurate analyses of the uses of proceeds of new issues during 1934, 1935, and 1936, made possible by registration requirements under the Securities Act of 1933, give much the same conclusions. About two-thirds of the total proceeds of the new issues of 1934, 1935, and 1936 were used to refund existing issues, and only a small part of the other issues eventuated in new investment.

When the proceeds of new issues do not immediately eventuate in expansion of productive equipment for the issuing corporations, the devious passages through which the capital flows may be hard to trace. And it is even more difficult to attempt to measure the extent or volume of flow through various channels.

It should be borne in mind that often the chief motive of a security issue is not capital-induction into, but in a sense capital-withdrawal from, the issuing corporation. In a Johns Hopkins study published in 1921 I found that many industrial issues, especially during the first two decades of the century, were really sold for the account of successful businessmen who wanted to dispose of their security holdings in the businesses they had built up. Moreover, some so-called secondary distributions have at times been classified as new issues. They represent sale to the public of a large block of securities held by some large holder, anxious to get out his capital and diversify his investments.

Some of the important industrial flotations of the first decade of the century were motivated by a desire of corporate enterprise to free itself from the control of the commercial banker. During the twenties the great corporations never forgot the difficulties they had had with the commercial bankers at the beginning of that decade. And as late as 1927, an estimated 9 per cent of the total proceeds of new issues was used to pay off corporate indebtedness to commercial banks. We shall later show that the great corporate surpluses built out of the large earnings of the twenties and the unused proceeds of new issues floated during the New Era have of late years made Big Business much less dependent on commercial bank loans. Even as late as December, 1936, Sidney Weinberg stated that our large corporations were "well fortified with cash even after the depression."

We should stop to realize that whenever proceeds of new issues, or parts thereof, are used to pay off a bank loan, the issuing corporation is using capital to settle for such investment as it previously made when the bank loan was incurred. Likewise, when new issues are for refunding, they do not directly eventuate in any new investment. The refunding issues of late years have merely helped to make effective in industry the low interest rates needed by the federal government for its extensive deficit financing.

And the reduced interest yields on bonds together with other factors served to inflate stock prices during 1935 and 1936.

Investment-trust issues of the last ten years represent another factor that has served to inflate stock prices. Some few of these companies may have employed the proceeds of new issues for investment in new enterprises, but the bulk of the capital obtained has been used to buy stocks, particularly market leaders. Thus, proceeds of investment-trust issues may serve to bring about maladjustments in the market values of various classes of securities rather than further directly the investment process.

The captains of industry who withdraw capital from their enterprises by sale of securities and the large stockholders for whom secondary distributions are effected use the funds they receive to buy a diversified list of seasoned issues. Some of these elderly gentlemen of the pre-War decades went in for municipal bonds, but the New Era generated a stock-mindedness which but few have since resisted.

When these beneficiaries of new issues and when investment trusts buy stocks, the sellers receive funds which they may use for a variety of purposes. They may keep them as idle balances in commercial banks or as time or savings deposits; they may put them back in the stock market; or they may increase their purchases of consumers good and luxuries. To the extent that the luxury-goods industries are thus enabled to build up their corporate surpluses, they are encouraged to make later investment; that is, to expand their productive equipment. But this indirect and devious movement of capital into industry creates certain definite problems which will receive later treatment.

We have now reached a point where we must expand one of the most important qualifications to the generally accepted thesis that industry obtains in the securities markets funds for expansion of productive equipment and for permanent improvements, whereas its demands for temporary financing and for working capital are met by commercial banks. It has already been suggested that during the New Era, Big Business was able to increase its corporate surpluses and to obtain considerable funds in the securities markets. Indeed, the corporate profits of the twenties and the new issues of those years were much in excess of industry's requirements for plant extension. When the large corporations found the market values of their securities far above their book values, they were naturally tempted to get the public's money while the getting was good. But after the money was received, they were not always prepared to spend it immediately for productive equipment.

Between 1927 and 1929, 450 of the more important industrials, railroads, and utilities increased their investments (for the most part in securities) by over 1 billion dollars, and their cash and receivables by another billion. During the 1929 speculative orgy they had so much idle cash that they threw

large funds in the call-money market. As a result, when the depression came, Big Business had much of its large corporate surpluses in cash. The 450 corporations referred to were able to maintain their cash at about 4 billions during the depression, and even in 1932 the total declined less than 5 per cent.

These statistics for the 450 corporations were gathered by the Standard Statistics Company. From balance sheets for some 270,000 corporations (all financial corporations excluded), reported in the *Statistics of Income,* it appears that the medium sized and small corporations did not have such success in maintaining their cash during the depression. In 1931 the decline seems to have been greater than 20 per cent. But medium sized and small corporations had not had such easy access to the securities markets, and had not been able to build up their cash reserves during the boom.

Sale of securities, large profits, and conservative dividend policies during the late twenties enabled Big Business to carry such large cash reserves through the depression that its dependence on commercial banks was largely obviated. But the rest of business did not have that advantage. And naturally those small and medium sized firms with dwindling cash reserves found the commercial bankers less interested in extending credit. These facts explain the statement before the Investment Bankers Association at the end of 1936 that underwriters' attempts to sell issues of $1,000,000 and less were prompted by the lack of demand for security flotations from large corporations, "well fortified with cash even after the depression." Moreover, the large depreciation reserves accumulated by the great corporations all during the last decade have apparently not been fully reinvested in plant and equipment and considerable portions of these reserves were kept in liquid form. Indeed, the percentage of cash to volume of sales, or any other index of business volume, rose so during the depression that business, especially Big Business, was often accused of hoarding.

The freedom of Big Business from banking control is in a sense comparable to the independence achieved by the German commercial banks during the twenties. It should be remembered that Schacht warned that American investors and banks, by pouring funds into Germany, were making it impossible for the Reichsbank to exert its proper control over the banking system. Perhaps American investors and banks ought to be warned not always to be so ready to advance to business large funds which do not have to be paid back or accounted for regularly, as do ordinary commercial borrowings.

The easy access of business to the securities markets during the twenties not only removed it from the control of the Federal Reserve system but also tended to vitiate some of the most important banking reforms which the institution of the system had been calculated to effect. Those who framed the Federal Reserve Act deplored the concentration of funds in

the speculative vortex, of which New York City may be the center but whose periphery takes in a much greater area. They saw the danger in allowing the banks to keep so large a part of their funds in loans on securities. The Reserve banks, therefore, were set up to decentralize reserves and provisions were inserted, and other provisions later added, which were designed to increase the use of acceptances and commercial paper. But in 1928 and 1929 there was a concentration of funds in the speculative vortex to an extent that had never been previously witnessed. Moreover, bank loans on securities have continued, whereas the use of acceptances and commercial paper has not been increased.

The failure to extend the use of acceptances and commercial paper in this country was one of the subjects of inquiry by the Senate Committee on Banking and Currency in 1931. Both the Federal Reserve Bank of New York and the Federal Reserve Bank of Boston stated in their answers to the Senate Committee's questionnaire that capital issues had supplanted ordinary commercial bank loans as well as commercial paper and acceptances.

II. *Industry's Use of Bank Credit*

Having shown that business has been allowed to use the securities markets to obtain liquid capital, we shall now inquire into what extent it has directly or indirectly obtained from commercial banks the means of financing fixed and permanent improvements.

Little did the goldsmiths and the bankers of Amsterdam dream what they were starting when they began their manufacture of paper money! And little did those who set up our commercial banking system foresee to what uses its credit was to be put. Once upon a time we could have told the elementary student of banking that bank deposits were largely created by loans to merchants and industrials in need of funds to finance pay rolls and inventories prior to payment for goods in process or for goods sold but not paid for. But that time has passed.

When present commercial bank deposits are compared with those before the War, the increase appears staggering. But the increase cannot be explained by any significant growth in commercial loans of the type commercial banks were created to extend. An unhealthy percentage of the world's gold stock, a political silver policy, government deficit financing, and increased loans on securities explain in large measure the growth of bank deposits. The government, forced to spend during the depression, was given blank checks by the banks, and the created deposits were checked out to, and retained by, business and those individuals who are not forced to spend all they receive for daily necessities. In passing it might be mentioned that this manufactured money is the kind of cash my friend, Mr. Charles R. Gay, and others talk about when they say that the bull market of 1935-36 was a cash market.

Now it is true that the loans of the commercial banks have increased somewhat, but most of that increase is explained by the increased loans on securities and real estate. Since large corporations can get all the capital they need in the securities markets, and since small corporations especially of late years have not seemed such good risks, the commercial banker has come to favor loans on marketable securities. They require only the services of a margin clerk who can accurately check daily quotations. But these pawnbroker loans differ materially, both as to nature and purpose, from the kind of loans a real commercial bank might be expected to make.

On June 30 of this year member banks had 1½ billion dollars of loans to brokers and dealers and about 2⅘ billions of loans on securities to bank customers other than brokers and dealers against 6⅔ billions of loans otherwise secured and unsecured. The 1½ billions of loans to brokers and dealers were intended for their own, or their margin customers', purchases of securities. Moreover, at least 35 per cent of the 2⅘ billions of loans to bank customers was for use of those who trade on margin but who like to think they are not margin traders because they operate in a bank.[1] Of the 2⅘ billions of loans to customers other than brokers and dealers at least 28 per cent was granted business men who were borrowing for commercial purposes on security collateral.

Commercial bank credit, then, may be directed into industry for permanent investment (1) via the commercial borrower who uses securities as collateral; and (2) via the margin trader who may enable the securities markets to absorb a larger volume of new issues than could be absorbed were margin trading prohibited. These two channels through which bank-created capital may flow into industry will be considered in the order indicated.

Those who wrote the margin provisions of the Securities Exchange Act of 1934 and those who have formulated the margin regulations for the Board of Governors of the Federal Reserve system have never seemed to doubt the wisdom of allowing the banker to extend as much credit on security collateral as he deems wise, provided the credit is to be used for commercial, and not for speculative, purposes. But many intelligent laymen today, who do not pretend to understand but who nevertheless sense a danger in the ever increasing manufacture of bank money, are beginning to ask what restrictions ought to be put on the ease with which such money is being created. Formerly we were able to say that bank deposits were expanded through the necessities of business, as indicated by a larger volume of temporary loans for certain well-approved purposes. Moreover, such bank money naturally contracted during business recessions. But although the bankers can and do call demand loans on security collateral, such loans

[1] This 35 per cent is a minimum, derived from *Federal Reserve Bulletin*, Aug., 1937, p. 746.

are usually left untouched so long as the value of the collateral is adequate. Security loans, as Professor Sprague pointed out so many years ago, are more rigid in the banking structure than ordinary commercial loans, commercial paper, or acceptances because there is usually no provision for their regular liquidation. During the depression real estate loans remained practically unchanged and loans on security collateral to bank customers other than brokers or dealers were much less reduced than ordinary commercial loans.

Loans on security collateral to commercial borrowers are not necessarily granted to meet specific and temporary financial needs. The banker does not have to bother whether the borrower even sells the goods the loan might have been intended to finance. Indeed, the borrower may have originally intended to use the bank credit obtained for permanent investment in plant or machinery. The effect of the 1937 stock market crash on those commercial borrowers who used security collateral is a subject of inquiry which the Board of Governors of the Federal Reserve system should not neglect. It is often said that a severe stock market crash has a bad psychological effect on industry. But the effect may be more than psychological, especially if businessmen who borrow on securities are forced to find more collateral or to meet loans which they had made no plans to liquidate.

We now turn to examine the extent to which bank credit has been inducted during different periods into industry via the margin speculator. Perhaps the most significant justification for margin speculation is an economic one. It is reasoned that when businessmen are optimistic and want to sell new issues, stock prices are usually rising on the exchanges. At such times margin traders come in and bring in bank funds, which may help to absorb the new issues. True, Section 11(d) of the Securities Exchange Act makes it illegal for a commission house underwriter or a commission house distributor to finance his margin customers in the purchase of any new issue which he is underwriting or distributing. But margin traders, who usually buy market leaders, are assumed to buy from investors or from other sellers, who are thus given funds with which to absorb the new issues. In this way margin trading is assumed to further the investment process. But a little scrutiny will indicate that it may not be so simple as it at first appears.

A margin trader may buy a market leader from an investor who decides that his stock has risen too much in price and who may want to reinvest his funds in a new issue. But what is even more probable is that the margin trader will buy from another margin trader, who will then turn right around and use the funds received to buy some other market leader. Of course, this serves to increase stock prices. Moreover, if the cautious investor sells out, he may hesitate before investing in new issues, which are usually brought out on about the same yield basis as that of existing

securities. If he deposits the funds in a bank, the funds may or may not be used by the bank for the purchase of industrial, railroad, or utility bonds. Certainly some sellers of securities, as well as those with paper profits, increase their purchase of houses, automobiles, and luxuries.

During the last three years idle bank balances of wealthy individuals and corporations have been so extensive that induction of bank-created capital into the securities markets via the margin trader has certainly not been necessary to absorb the relatively small volume of new issues that has been floated there. But during the years preceding the crash of 1929, margin buyers did make it possible for business to acquire larger funds in the securities markets than it could have acquired had margin trading been prohibited. To the extent that issuing corporations used the funds received to further the investment process, the margin trader directed the flow of bank credit into the expansion of industry's productive equipment. To the extent that the issuing corporations used the funds received to pay off bank loans or to acquire cash so as to obviate future bank loans, the margin trader transferred the funds he received from the commercial banker through the investment banker to industry with the result that industry was allowed to dispense with the services of the commercial banker. As I have said many times of late, the commercial banker today, laden with government bonds and leaning on security loans which are being criticized by reformers and shrunk by legislation, may be in the soup, but he has certainly been one of its cooks.

We have reached a point in our journey where we must look back over the tortuous channels through which we have traced the flow of savings and bank-created capital into the securities markets and industry. With better perspective we may be able to get a better grasp of the larger effects of that flow.

First, when issuing corporations use the proceeds of new issues to pay off old bank loans and to acquire liquid balances which obviate future bank borrowings, they remove themselves from commercial banking control. Furthermore, the commercial banker has at times aided in industry's liberation by putting into the securities markets, via the margin buyer, bank-created capital, which has enabled corporate issuers to obtain larger funds.

Second, where those who receive all or part of the proceeds of new issues are individuals desirous of diversifying their investments, the capital released seldom flows directly into industry, and usually first increases the market prices of high-grade bonds and investment stocks, chiefly market leaders.

Third, some of the proceeds of new issues do eventuate in new investment. But where the issuing corporation merely acquires an already existing plant, no new investment is necessarily affected.

Fourth, commercial bankers have extended to industry bank-created capital, which is not so conveniently expanded and contracted with the needs of business: (a) through security loans to commercial borrowers; (b) through margin speculators when their purchases help to absorb new issues.

Fifth, margin buyers usually buy market leaders, and thereby lift the general level of stock prices.

III. *Direct and Indirect Expansion of Industry's Productive Equipment*

Investors' savings and bank-created capital eventuate in investment: directly, when they are used by corporate issuers to expand their productive equipment; and indirectly, when they serve to raise prices of existing securities and encourage those with realized and paper profits to increase their purchases of houses, automobiles, and luxuries.

Simon Kuznets' measurements for the "flow of producers' durable goods to enterprises" and the Federal Employment Stabilization Board's estimates of business construction give us some idea of the rate of expansion of industry's productive equipment between 1925 and 1933. For reasons, which time does not permit me to explain, I have used Kuznets' 1929 series, which is unaffected by changes in the price level, but I have had to use the business-construction series without such price adjustment. A log-paper comparison of these series with new issues suggests that capital formation during the New Era was effected at a slower rate than was formerly believed, and substantiates the evidence already given concerning the relatively small percentage of the new issues of that era that eventuated in investment.

Other series used in statistical analyses of business cycles to indicate the general course of investment activity show that although business was expanded in 1928 and 1929, the expansion appears less marked than that which accompanied certain other booms—for example 1906-07 and 1919-20. But it should be remembered that the level of production and investment activity after 1922 was generally high and that it was partly for this reason that the 1928-29 rise may not appear so exceptional when graphically represented. Indeed, with the exception of a slight recession in business in 1924, and a slighter one in 1927, the level of industrial activity was maintained at such a height during all the years from 1923 to 1929 that the period stands out as the longest boom period of the century.

Although I am not entirely satisfied with the data I have assembled to measure the effect of stock-market profits, realized or paper, on the expansion of consumers-goods and luxury-goods industries, I feel that I should present here the tentative conclusions these data seem to afford. Kuznets' series for the "flow of durable goods to consumers" and the Standard Statistics Company's index of the production of consumers goods

were used to study the effect of booms on the consumers-goods industries. Separate tabulations of the values of consumers goods and of luxury goods were made by using the biennial figures of the *Census of Manufactures,* but the classifications presented obvious difficulties.

The statistics indicate an increased flow of consumers goods, especially consumers durable goods, during the twenties. But the flow increased at a more rapid pace during the first half of the decade, whereas stock-market profits were much greater during the second half. The increase in 1929, however, was noteworthy. But the same was not true of 1927, when business was off although the stock market was booming. The shut down in the Ford plant undoubtedly accounted in large part for the 1927 decrease. The decline in the value of luxury-goods production during the depression was particularly significant. But what should be noted is that the value of luxury goods produced in 1933 was considerably below the value of such goods produced in 1931, even though during the latter part of 1930 and all during 1931 stock prices were falling and during a considerable part of 1932 and 1933 stock prices were ascending at a rapid pace. Of course, declining commodity prices and cheaper substitutes help to explain the reduced values of 1933. In summary, it can be said: that the consumption of luxury goods during the twenties was stimulated by stock-market profits, but the effect of such stimulation should not be exaggerated; that production of durable consumers goods and luxuries is much more affected by business prosperity than by conditions in the stock market; that during the depression even buoyant stock markets had but little effect in increasing the demand for luxury goods, when widespread unemployment and reduced wages lowered the community's purchasing power.

IV. *Control of Flow of Bank Credit and Investors' Savings into Industry*

When the many unsuspected diversions taken by capital in its flow through the securities markets into industry are considered and when the danger in some of its emergences are realized, one may view with alarm our economy's far departure from the state characterized by the economic simplicity announced at the outset of this paper. But if we should propose that industry be allowed to acquire from the securities markets only investors' savings for certain definite purposes and from the commercial banks only loan-created deposits for certain other definite purposes, we would be told that in our modern money economy investors' savings embody, or result from, commercial bank deposits and that commercial banks have large funds for permanent investment of one kind or another. And that is true. But since the theses of economics, the science, can only state tendencies, which are subject to ever changing qualifications, the proposals of economics, the art, can only furnish partial correctives, the value of which depend upon how well they meet those ever changing qualifications.

It was anticipated that the Federal Reserve Act, itself, would act as a corrective for the excessive induction of commercial bank credit into the securities markets. But the Pujo Report was prophetic when it announced in 1913 that the only way in which excessive funds could be kept out of the speculative vortex would be "to limit the proportion of its resources as may be loaned by any bank on stock exchange collateral." It also stated that no currency system can or ever will be devised that will prevent banks from using their money to their best advantage. Those who made these prophecies were vindicated by the speculative orgies of the twenties.

Some of the members of the Federal Reserve Board fought in 1929 for what they called "indirect action" to prevent banks from furnishing excessive funds for speculation. But it was not until the Emergency Banking Act of 1933 and the Securities Exchange Act of 1934 that the principle announced by the Pujo Report of 1913 was accepted and embodied in law. In the Securities Exchange Act of 1934, the principle was concretely put into practice in the power given the Board of Governors of the Federal Reserve system to regulate margin trading.

It is often contended that the Securities and Exchange Commission has no obligations in these matters and that the Board of Governors of the Federal Reserve system has done all that it was supposed to do; that is, "prevent excessive use of credit for the purchase or carrying of securities." But these contenders overlook two things. First, the Commission could have limited the amount of bank credit employed by brokers under Section 8(b) of the Securities Exchange Act, which section it has thus far used merely as a subject for technical and legal discussions. In the near future I hope to publish an extended analysis of the real purposes and the limitation of this section. Second, the Board should not have sat by and allowed the opinion to prevail that the 1935-36 bull market was a "cash market," in which security loans were not "excessive." Indeed, the great increase of "cash," effected by gold inflow, silver legislation, and government deficit financing, made what might have seemed reasonable security loans "excessive" under the circumstances.

On many occasions during the last two years I suggested that margin requirements be increased by substanial percentages as the stock price level advanced. It is only in a bull market that we can attain a so-called "cash market." There were two reasons for those suggestions. First, a comparison of the ratios of security loans to market values for the new-era and new-deal periods indicated that margin requirements for 1928-29 had not been relatively so lenient and the margin requirements for 1935-36 were not relatively so severe. It is not always remembered that the New York Stock Exchange in effect raised margin requirements during the New Era, when it cut down inflated market values for the purpose of calculating margin requirements. Second, progressive and vigorous increases in margin require-

ments during bull markets could be employed as a check, just as raising rediscount rates, restrictive open-market policy, and augmented reserve requirements are so used.

The necessity for such policy to supplement the other restrictive controls available to the monetary authority should be apparent from what has been pointed out earlier in this paper. Under the assumption that industry gets its fixed capital by sale of securities or from its own corporate surplus and its extra funds from the commercial banks, restrictions on the volume and cost of such extra funds might be sufficient to temper a boom. But since Big Business has of late years used investors' savings for working capital and has acquired indirectly through the margin trader all the commercial bank money it could want and for indefinite periods, it is almost completely removed from control by the monetary authorities. It will be argued that those corporations which acquire large funds at the beginning of a bull market will not be affected by increased margin requirements after the market has advanced. The truth of this argument may furnish some justification for the eventual establishment of a permanent cash market. But even if that is not accomplished, increasing margin requirements as a boom progresses will at least restrict the flow of bank-created capital to corporations that did not get in at the start.

In passing, the obvious advantages which Big Business has over Little Business in being able to tap commercial bank credit through the margin trader should be emphasized. Analysis of the balance sheets of corporations with different sizes of assets for certain years is afforded by the *Statistics of Income*. This analysis indicates how much more small and medium sized business units depend on bank loans than does Big Business. Whenever excessive speculation (as in 1928 and 1929) is accompanied by rising call money rates, the increase is soon reflected in other short-term rates. According to Riefler, this eventually tends to increase the cost of credit to banks' commercial borrowers.

If margin control is continued and extended, attention should be given not only to the speculator but also to the commercial borrower who uses securities as collateral. And even if the security loan is not done away with, provisions for its prompt retirement should always be exacted.

Now that the various controls on the extension of commercial bank credit have been so fully developed in our existing banking and securities legislation, the question arises as to the necessity for some further control of the flow of capital into the securities markets. The Securities Act of 1933 is only calculated to tell the investor exactly what he is getting, whatever it may be. The efficient Registration Division of the Securities and Exchange Commission has attempted from the beginning to obtain such full disclosure as to make doubtful ventures appear unappetizing. But large corporations with good records and willingness to disclose frankly all information demanded

by the Securities Act cannot be kept from getting all the money the market will allow and from using it for purposes which may be of doubtful value to the economy at the particular time it is so used.

At the present time I have not completely made up my mind as to the relative advantages and disadvantages of further controlling the flow of savings to industry through the securities markets. But I have no doubts about the Securities and Exchange Commission's responsibility for insistence on full and frank disclosure by big corporations as well as by small corporations desiring to register new issues under the Securities Act. There was no need in 1934 in my opinion for the relaxation of registration requirements. New issues should not have been sanctioned where surpluses, created out of the ink wells of accountants and appraisers, were carried on balance sheets. The Commission should not have felt itself called upon to "break the jam in the capital markets." And, after all, its compromise availed but little. Big Business did not need to borrow very much partly because of its large liquid resources and partly because it did not have the confidence to extend its investment operations substantially. As a result of the Commission's lenience, as I have already publicly said, bondholders found themselves with only part of their former income and sometimes with but part truths about their securities.

V. *Reduction of the Amplitude of Cyclical Fluctuation*

The economist has too often been led into the philosopher's temptation to construct a monistic system, when a pluralistic one might be more revealing. This temptation has led many of us when accounting for the business cycle to overestimate the one cause which happens to engross our attention. Some have refused to look anywhere but at the planets and the sun, while others have kept their eyes down on the soil and its changing bounty. Some have dwelt only on man's too great haste in the multiplication of the means of production. Others have seen only knaves in the counting house. And true as is the psychological fact that all men become by turns elated and depressed, this truth does little more than help us to realize the inevitability of the recurrence of hard times.

How can the amplitude of cyclical fluctuations be reduced is the practical question. It is alarming that this amplitude seems to be widening, despite the improvement of economic statistics and the help they should furnish business in forecasting and thus ameliorating depression. Even those of us who hold an eclectic theory of the business cycle cannot but be alarmed when we see the expansion of bank credit proceeding at a rate unrelated to the augmentation of goods and services and when we consider the possible effect of this disparity in unbalancing industrial production and in maladjusting market valuations. Although there may be no one set or sequence of economic factors that explains, or accompanies, all booms and depres-

sions, the relation between saving and investment warrants consideration as one factor of importance.

The significance of Keynes's identity of money savings and money investment by definition and the validity of his mathematical demonstration of the equivalence of money savings and money investment are controversial. Does he not in effect use a single entrepreneur's profit and loss account, which merely represents the result at a certain moment of the transactions during a certain period, to build up an accounting for the interrelations of a dynamic economy? His ingenious demonstration that what he calls investment automatically creates what he calls savings seems to carry with it the implication that industrial expansion can be effected at almost any rate with impunity. All of us want the ever-more-abundant life, but some of us mistrust the stimulation that seems to give it to us with one gulp and on short notice. Some theoretical thinking—perhaps less abstract than that of Hayek—ought to be devoted to (1) the clarification of the effect on the investment process and the business cycle when industrial expansion is financed by increasing quantities of bank credit rather than by investors' previously accumulated savings; (2) the apparent waste of investors' savings and bank credit when business is allowed to acquire and hold larger cash reserves than even prudent finance would dictate.

Until we are given more light on these theoretical questions, we must hope for continued and even more stringent government restriction on the flow of bank credit into the securities markets, even if only to obviate the disturbing price maladjustments which it causes in those markets. And we must consider the possibility of some control over the almost unrestricted access to investors' savings that business, particularly Big Business, today enjoys.

THE RELATION OF PRICE POLICY TO FLUCTUATIONS OF INVESTMENT

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Since the distinction between corporate enterprise and other enterprise appears to me to be unimportant in discussing price policy or investment, I propose to speak of price policies rather than corporate price policies, as announced in the program. Since my subject is price policies rather than all factors affecting price movements, it concerns only a part of those influences which bear upon the level or the relationship of prices. Within the broad environmental conditions which set limits to anyone's freedom to manipulate a price, many concerns today have a partial control over the market for their own products. They follow administrative policies intended to influence the price. It is the relation of these policies to investment which I propose to discuss. Although new investment is not quite synonymous with the purchase of capital goods and consumers durable goods, the preponderance of investment takes this form. The fluctuating output and sale of the durable goods industries may be regarded as a rough measure of the fluctuations of investment.

I

Industrial price policies express and seek to cope with an inherent vulnerability in the status of modern industrial enterprise. Most concerns must face an unstable market. Demand is unstable because of changes in standards of living, in the number, character, and distribution of the people, in the amount and distribution of income, and in the availability of substitutes; supply is unstable because of changes in technology, in the costs of constructing new equipment, in the availability of credit, and in the readiness with which various concerns may reach a market. Prices are unstable partly because of these other instabilities and partly because of changes in the intensity of competition. Some instabilities are inescapable aspects of trends of change; others are incident to the gyrations of the business cycle. Most of them accentuate one another.

Yet, though the market fluctuates in a way largely unpredictable, industry has grown less flexible. With the expansion of the machine process and of the more elaborate administrative organization incident to the development of large enterprises and wide markets, a larger proportion of costs have taken the form of annual charges either fixed in amount or not subject to much change as output varies. Hence, fluctuations in sales without corresponding fluctuations in expenses have come to mean much wider fluctuations in profits, and there is a strong incentive to maintain output at or near capacity. This condition, conspicuous in large enterprises, prevails also in

many small ones, and, as farming has been drawn more fully into the money economy, has become characteristic of agriculture. When the unstable influences of the market increase capacity considerably beyond the level of sales or reduce sales considerably below existing capacity, the incentive to use price competition as a means to maintain sales is so great that it may readily produce a price war. Prices may fall so low that they no longer cover fixed charges, to the theoretical lower limit of the expenses which could be avoided by shutting down the plant; that is, approximately to the direct cost of materials and labor. The desire to preserve established trade connections sometimes induces the producer to sell for even less than direct cost.

The ice industry, which is dominated by fixed costs, a limited market, a demand which varies with the weather, and a decline of sales due to the spread of electric refrigeration, affords a classic illustration of such conditions at work. In the last few years, price wars in various cities have carried the price of ice as low as one dollar a ton, when, according to informed estimates, the cost at the manufacturer's platform lay somewhere between one dollar and eighty cents and three dollars a ton.[1] If competition persists, such price wars may continue until demand increases or part of the capital equipment becomes obsolete. Even the bankruptcy of the financially weaker enterprises does not necessarily reduce the competitive pressure, for the bankrupt equipment, recapitalized at a lower value, may continue to produce. In many cases, however, the competing concerns terminate the war by finding some way to restrict competition. Price wars in the ice industry often end in a tacit or overt understanding among competitors, and thereupon the price rises to between four and five dollars a ton. Among the techniques for limiting competition have been the buying out of competitors' plants, the allocation of sales quotas or sales territories, the establishment of minimum prices, and the use of racketeers to drive out price cutters. In many cases the mere fear that such a war may develop is sufficient in itself to secure the observance of tacit understandings to maintain prices or to divide the available market. This fear is great enough, both in the ice industry and elsewhere, to generate the feeling that a price cutter is either a fool or a traitor.

II

A principal purpose of most price policies is to avoid price wars by limiting competition. Of course, the desire to limit competition is as old as the desire for monopoly profits. But efforts to control prices appear among concerns which in many other respects are in sharp competition. Many business groups and some economists are today convinced that the edge of price competition should be dulled, not for monopoly gain, but to promote the orderly operation of industry. The threat to solvency inherent in markets

[1] H. B. Drury, "Production and Capacity Control in the Ice Industry," *NRA Division of Review Work Materials No. 64*, pp. 5, 36, 41, 43.

which develop price wars has made programs of price control more widespread and more open than before. From this point of view, price control is partly due to the peculiarly wide cyclical variation in the sales of durable goods and to fluctuations in the markets of other industries for which changes in the activity of the durable goods industries are largely responsible.

In general, price policies seek to stabilize prices. A stable price, as the term is used among business groups, is not merely one which changes seldom. Such a price resists movement in a downward direction and does not long remain below a level which is satisfactory to the producer. Some stabilized prices, like the price of steel rails in boom periods, may be stable against an increase as well as a decline; but others, among them many building materials, rise readily if opportunity develops. Stabilized prices are usually prices whose average level is higher than it would be but for the stabilization. Of course most price policies have accessory aims, and many exceptions must be recognized in which the principal aim is not to raise the price; but for the broad purposes of this discussion price policies may be summarized as efforts toward price maintenance.

Such policies are not limited to monopolistic industries. In their crudest form, most frequently found where enterprises are few but none is of a predominant size, such policies consist of collusive agreements to maintain prices, restrict output, allocate sales territories, or in some similar way violate the anti-trust laws. Within the last year the Federal Trade Commission alone has taken official action against combinations in restraint of trade or for price fixing in at least sixteen different industries. Less obviously, but with similar effect, there are many cases in which one or two large concerns attain leadership of the industries in which they hold a preponderant place, and establish prices which are followed without formal agreement, in the belief that such conformity is good business. Since in such cases it is usually obvious that the market leader will effectively challenge price reductions, overt threats of retaliatory price cutting are seldom necessary to establish the leader's authority. During NRA, for example, a small producer of a steel specialty informed the Consumers' Advisory Board that because a large manufacturer had begun to make and sell the same product at 15 cents a pound he too must charge that price, although he had sold the product profitably in 1929 for 12 cents. Inquiry showed that no code provision limited his freedom to charge 12 cents and that he had not been threatened, but that he dared not sell below the large concern. Eventually he obtained from the Iron and Steel Institute a ruling, ostensibly determining that his product was to be regarded as one of the basic products of the industry; and this ruling he interpreted as permission to set his price at 12 cents regardless of the price charged by the large concern. Frequently collusion and price leadership supplement each other, for mutual understanding as to practices in determining freight

charges, quantity and functional discounts, credit terms, and the like, is almost indispensable if a leader's prices are to be followed.

Still more widely the idea has developed that sound business policy requires that each enterprise use a cost accounting system and establish a market price sufficient to cover costs. Since cost systems usually provide some method of allocating fixed charges according to average use of capacity, they obscure the disadvantages of decreasing total revenue while fixed charges continue. Their use as a basis for price making becomes a means of asserting, with the authority of a mathematical technique, that it does not pay to compete for business if competition is too severe for prices to cover these fixed charges. Their use by a whole industry may lead to the abandonment of such competition. Sometimes, instead of using merely a cost accounting system, members of an industry use a standard cost formula for determining price, or even a hypothetical cost based upon a trade association's figures of average or representative costs in the industry. In such cases, cost accounting shades off into outright price fixing. The general effect of cost formulas for price in mitigating the severity of competition was recognized under NRA by most industries which wished to establish minimum prices on a cost basis or to require the use of cost accounting systems for their "educational" effect. The failure of cost systems to express adequately the forces at work in a competitive market where excess capacity is large was also evident in NRA, in the fact that even government support did not prevent the collapse of various cost-bottomed prices.

Finally, most modern enterprises, whether large or small, manufacturers or distributors, seek a privileged position in the market. They engage in sales campaigns designed to secure the customer's good will, to give themselves a unique position, to differentiate their product from that of competitors, and thus to free themselves to some extent from the necessity of matching prices with competitors. An indication of the degree to which the good will attached to a brand may sometimes protect a manufacturer's price is the fact that in 1930 a quantity of Bayer's aspirin which cost 85 cents wholesale was identical except in name with aspirin which could be bought wholesale for 15 cents.[2] Indications of the importance of prestige and advantageous location in protecting a distributor's prices are the wide variations in the retail prices of identical branded goods. Thus in 1936 the price of Listerine in Chicago varied from 89 cents to 55cents, in Boston from 89 cents to 49 cents; many other drug items showed a similar variation;[3] and the price of Kraft packaged cheese in Chicago varied by several cents a package within a block or two.[4]

The effectiveness of good will in limiting competition obviously varies

[2] M. R. Bendiner, "New State Laws for Price Maintenance," *Editorial Research Reports*, Vol. II, No. 6, August 12, 1935.
[3] *Druggists Circular*, March, 1937, pp. 22-25.
[4] *Federal Trade Commission* v. *Kraft-Phenix Cheese Corp.*, Docket 2935.

and is often kept small by rival appeals to the same customers. Yet even when sales effort is largely stalemate, it tends to maintain prices. The seller who tries to control his market is likely to determine his price in advance, to adhere to it for a considerable period, and consequently to avoid yielding to pressure for lower prices unless it is long sustained. He emphasizes competition in sales appeal, not competition in price. Under such conditions, the establishment of a low price becomes, not the chief means of competition, but a particular kind of sales appeal; and even the price cutter often goes no further than to maintain a conventional differential below the prices of his price-maintaining rivals.

Although the degree of price control achieved by price policies varies widely with the nature of the policy and the strength of its users, the purpose to achieve some control over price is general in such policies. Policies traditionally called monopolistic are frequent; policies loosely called competitive are usually intended, not merely to sell more goods and to produce more efficiently, but also to build a wall around some segment of the market, in order to make it more difficult for the sellers outside to reach the customers inside. A competitive market often is made up of a series of quasi-monopolies, loosely checked by one another as a monopoly is checked by the competition of substitutes, and tending in the aggregate to maintain prices stubbornly when sales decline.

III

If price maintenance went no further than to offset the special intensity of the incentive to reduce prices, one might argue that, though it assessed upon the consumer much of the cost of idle capacity, it at least made for a better balanced price structure. In fact, however, when the power to maintain prices is attained it is not used so moderately. Successful programs of price maintenance are conspicuous in the durable goods industries, whose wide fluctuations arouse acute fear of price war. So effectively do durable goods prices resist decline that, although durable goods sales fall decidedly more than sales of non-durable goods during depression, durable goods prices fall less. During the last depression, the Bureau of Labor Statistics' index of employment in non-durable goods industries fell no lower than 79, whereas for durable goods industries it fell to 53. Whereas the Federal Reserve Board's adjusted index of manufacturing production fell no lower than 63, the index for important durable goods industries fell much lower; for iron and steel to 31, automobiles 35, cement 43, carpets and rugs 34, and locomotives 1. Yet from October, 1929, to the low of the depression the Bureau of Labor Statistics wholesale price index for metals and metal products fell only 26 per cent and for building materials only 29 per cent, whereas the index for foods fell more than 46 per cent, for textile products 45 per cent, and for all commodities 37 per cent.

Similarly, the recovery of durable goods prices is anomalous. The prices of building materials outstripped other prices in recovery after the depression of 1921. In October, 1937, with the index of food prices still more than 15 per cent below the corresponding month of 1929 and the index for textile products more than 20 per cent below, the index for metals and metal products was below that for October, 1929, by only 7 per cent, and the index for building materials by about 2.5 per cent.

The characteristics revealed by these general averages of price movements appear in exaggerated form in the price movements of certain commodities in the durable goods group. From October, 1929, to October, 1932, steel rails fell in price less than 3 per cent, aluminum less than 5 per cent, and galvanized range boilers, concrete blocks, and prepared roofing actually rose in price. From October, 1936, to October, 1937, the price of concrete reinforcing bars rose more than 25 per cent, of wire nails more than 32 per cent, of cast iron pipe more than 17 per cent, of structural steel more than 18 per cent, of galvanized range boilers more than 42 per cent, of concrete blocks and fire clay brick more than 14 per cent, of lumber more than 13 per cent, of doors, door frames, and window sash from 17 to 25 per cent. The collapse of the expected building boom did not prevent substantial increases in the prices of these building materials.

The price decline of the durable goods industries may have been relatively greater than is shown by these figures, because in these industries price concessions often took the form of more liberal terms of sale not reported in the statistics.[5] On the upswing, however, any readjustments of such terms of sale probably augmented the reported rise in prices.

IV

In so far as policies of price maintenance are responsible for the behaviour of durable goods prices, their effect is evidently to accentuate the swings of durable goods production, and particularly of the production of capital goods. This effect is less obvious on the downswing than during the recovery. As we enter a depression, capital goods prices are maintained. At this time there would be little expansion, repair, or replacement, no matter what the price; for the major deterrent to investment is fear of losses even in the use of existing equipment. But the disparity between capital goods prices and other prices necessarily makes investment less attractive even to those who have money and can sell goods. Moreover, as Professor Arthur Burns has pointed out, even the more stable prices usually drop; and though the slowness of their movement may prevent some buyers from waiting for a decline, it probably encourages others to hold back in the belief that the

[5] The Federal Trade Commission found that from 1926 to 1929 secret discounts were so frequent that only 21 per cent of the shipments of range boilers were made at published delivered prices. (See *Study of Zone Price Formula in Range Boiler Industry*, March 30, 1936.)

drop must eventually come. The effect of price maintenance during the recession is probably to reduce sales, but not greatly.

On the upswing the effect probably is greater. The fact that durable goods prices start relatively high and that some of them rapidly go still higher makes for delay in the revival of investment. There is an accumulated need for durable goods, for repairs and replacements of capital goods have been postponed, the introduction of improved processes has been delayed, the population has grown, and durable consumers goods have worn out or become obsolete. But with durable goods prices relatively high, business investment would be unprofitable and consumer investment unwise.

A thoughtful farmer who wrote to NRA in 1933 itemized the cost he would have incurred in building a cow barn and the income he hoped to make from the cows, and pointed out that, whereas he could have built the barn as planned at the lumber prices prevailing in the spring, at the high code prices for lumber the barn would not hold enough cows to pay for itself unless he could find collapsible cows. By underestimating the importance of such calculations by investors, the lumber industry retarded sales during the first part of the code period, set production quotas under the code so high that inventories rose 800,000,000 board feet in nine months, and drifted into general evasion and final abolition of the price provisions of the code. This kind of policy was prevalent in the construction materials industries in code days, and was apparently responsible in part for the ineffectiveness of efforts to revive building in 1933, 1934, and 1935. The experience of recent months has been similar. Last winter, a revival of building seemed imminent, with rents rising, a housing sortage general, and the Federal Reserve Board's adjusted index of the value of construction contracts showing some tendency to rise. But the Bureau of Labor Statistics index of building materials prices rose about 10.5 per cent, from 87.1 in September, 1936, to 96.2 in September, 1937. At this latter level it was higher than in September, 1929, although the value of construction contracts awarded was running only a little more than half as large as then. The wages of construction labor also rose. The construction cost estimates of the Federal Home Loan Bank Board show an increase, within the last year reported, which has differed widely in different cities, but which, in about 60 per cent of the cities, exceeds 10 per cent. The index of the value of construction contracts stood lower in September and October of this year than in the corresponding months a year ago. Thus the tendency of durable goods price movements is to concentrate the purchase of durable goods in a narrow period at the height of prosperity, and thereby to accentuate the fluctuations of the durable goods industries. By encouraging overexpansion, this intensification of the boom period is likely to increase the excess capacity during the next recession.

Less conspicuously, the tendency of price maintenance is to accentuate the

disparities of price, and hence the fluctuations of activity, in other industries. The technical requisites for maintaining prices are not present everywhere. Success in such a policy is most likely where there are relatively few concerns, some of which control a large percentage of the total sales; where many buyers will go on buying in spite of appreciable price inducements to go elsewhere; where overhead costs are important enough to arouse fears of price cutting, but not so great as to provide an overwhelming incentive to operate at capacity; where if there are recalcitrant competitors or industries producing substitutes, they cannot greatly and rapidly expand their output; where buyers are susceptible to the appeal of advertised brands. Since such conditions are approximated in varying degree in different industries, the success of efforts to maintain prices differs widely. The maintained prices get out of line with the prices which move more freely. Thus the varying success of price control contributes to an unbalance of the price structure and thereby to fluctuations in the entire economy.

V

Apart from the broad effect of price disparities, however, the tactics of price control, in many cases, directly affect the tactics of investment in the industry where the control occurs. Some of these effects are peculiar to special types of control, whereas others follow from almost any type.

When a long-run price policy is adopted by a particular enterprise, a correspondingly regular investment policy may be adopted at the same time. Thus, after the depression of 1921, General Motors adopted a price policy which depended upon an investment policy. Assuming that expansion is desirable so long as the anticipated revenue from the sale of the added product at the anticipated price will more than cover the anticipated cost of the new capital, the company predicted sales trends, the cost of capital involved in expansion, and the load factor in the use of equipment. Thus it planned jointly the scale of its operations, the amount of its new investment, and the price of its products. By estimating the amount of idle capacity which would be encountered because of fluctuations in sales and by applying the resulting load factor in the determination of both its price policy and its investment policy, it made these fluctuations consistent with stability of its prices and rate of investment so long as the general trend of sales was correctly calculated. Similarly, a certain telephone company, which has a large investment in the old-fashioned type of home telephone equipment, is using its price policy, so far as the state commission will allow, to regularize the transition to the French type phone. The effort is to establish a differential charge for the use of the newer phone which will just equalize the rate at which it is adopted and the rate at which the older phones wear out. In such cases managerial policy toward price becomes a means toward an orderly development of new capacity or an orderly retirement of old.

In the maintenance of prices by agreement or regulation, there is sometimes direct use of controls over output or new capacity or both. Some systems of price maintenance depend upon production quotas which are set in hours of plant operation or which vary according to the productive capacity of the various producers. Under NRA the cotton textile industry used a production control plan of the first sort, and some branches of the lumber industry used plans of the second sort. In such cases, there is an incentive for existing concerns to increase capacity in order to obtain an enlarged quota or a larger output during the designated number of hours. There is also an incentive for closed plants to reopen and for new concerns to enter in order to exploit their guaranteed place in the market. Quota systems in oil fields have sometimes led to a race to put down new wells. In the cotton textile industry, under the NRA code, the construction of new spindles was the largest in ten years; and yet some producers, unable because of code restrictions to buy all the new equipment they wanted, paid more for old machines than the list prices of new ones.[6] During the NRA lumber code, under which a quota was available for every concern capable of producing, 95 new large mills were established, each with an annual capacity of more than 5,000,000 board feet. Moreover, many small mills were started and many closed mills reopened. It is estimated that in southern pine territory alone between 5,000 and 6,500 mills began or resumed operations during the code period.[7]

To avoid this sort of scramble for new capacity, systems of output restriction frequently include a rule that there shall be no new investment except with the sanction of an administrative body. During NRA such a rule prevailed for the blast furnace and open hearth capacity of the steel industry, for cotton textile mills, for glass bottle manufacture, for ice plants, and for various other industries. When restrictions upon capacity were actually enforced, not merely stability but stagnation of new investment was the general rule. Members of an industry were reluctant to see their rivals expand, and even when permission could be secured, the delay and publicity which preceded decision were significant deterrents.

In such cases the restriction of one industry's growth is likely to be also a significant restriction of the market of the machine tool and construction materials industries which serve it. The ice machinery manufacturers protested that they lost business because of the restriction of new capacity in the ice code.

In industries where prices are maintained by centering the buyer's atten-

[6] H. B. Drury, "Administration and Effects of Production and Capacity Control Provisions of NRA Codes," NRA Division of Research and Planning, May 1, 1935, pp. 118, 120-122.

[7] Peter Stone and others, "Economic Problems of the Lumber and Timber Products Industry," NRA Division of Review, Work Materials No. 79, p. 170; "Administration and Effects of Production and Capacity Control Provisions in NRA Codes," NRA Division of Research and Planning, *op. cit.*, p. 16.

tion upon the name and alleged superiority of each seller's goods, the sales of any one enterprise are likely to be far less stable than those of the industry as a whole. The relative popularity of cigarettes changes as one concern or another devises a new slogan, a blindfold test, or a prize contest. The producers who first introduce colored sheets or kitchenware win a sales advantage. Style in the product makes for a varying output, and for unusual risks of obsolescence in the productive equipment. Where such tactics are of major importance, as they are in some of the garment industries, the differentiation of products and the frequent changes of specifications for goods and hence of manufacturing methods limit the producer to the use of more simple, inexpensive, and adaptable machinery than would otherwise be used. Such industries tend to be less mechanized than those which produce standard goods, and to replace their equipment more rapidly. Hence, total investment is smaller, renewal more frequent, and risk greater than is the case for more standard products.

Whatever the particular form which price maintenance takes, an outstanding effect is likely to be a stimulus to new investment in those areas in which the policies of price control are not effective. The extent of such investment by outsiders depends upon the ease with which they can expand and the strength of the price inducement to do so. When the price control is based upon patents or upon control of the whole visible supply of an indispensable material, only the competition of substitute commodities is effective. When the productive unit is necessarily large, as in the case of steel and automobiles, independents have difficulty getting started; and when the existing large concerns have a community of interest with the banks, this difficulty may be enhanced. Moreover, new concerns are less likely to be attracted if the policies of price control are moderate; if they are intended primarily to prevent minor fluctuations in price, yet to allow for expansion rather than price raising as demand grows, for the writing off of capital values rather than price maintenance when mistaken investments are made, and for price reductions in depression.

But in spite of these qualifications, there is a general tendency for price maintenance, whatever its effect upon investment by those who maintain prices, to stimulate expansion by others. A basing point system acts as a subsidy to new capacity located nearer the market than the base. Price fixing by producers in one country encourages production in other countries. Price maintenance by large concerns shelters the growth of small independents. The U.S. Steel Corporation's proportion of the steel industry's total output of ingots and castings fell from about 65 per cent in 1901 to 41 per cent in 1927 and to about 38 per cent now. High copper prices encourage the collection and sale of secondary copper, a considerable part of which cannot be controlled by the large companies. Similarly the control of prices and output in a large part of the world's rubber and coffee

producing areas has provided incentives for a development of plantations elsewhere which have absorbed an increased share of the market. Even in price control by branding, the effect is similar. The successful exploitation of nationally advertised brands on a high price basis encourages distributors to push private brands to be sold at lower prices. A striking recent example has been Macy's campaign to substitute its own brands for brands on which resale prices have been fixed under the terms of the Feld-Crawford law.

The enlarged activity of outsiders creates pressure which leads to breakdown in the policies of price control. As new competitors and substitute products absorb more of the market, price maintenance without the cooperation of the new concerns becomes more difficult. Yet these new enterprises have a vested interest in their nonconformity, since it permits them a price advantage which is the basis of their successful expansion. Even the concerns which are maintaining prices are under temptation to produce more than they can sell and then to enlarge their share of the market by secret price concessions. A frequent result is the breakdown of control of prices and the restoration of price competition under conditions in which, because of enhanced productive capacity, it is likely to be more severe.

Although such a sequence of events is not inevitable, it is so frequent that the effort to secure price stability by price control usually attains only intermittent success. After copper prices had been successfully pegged at about 17¾ cents a pound from May, 1929, to March, 1930, they fell steadily for three years to a low of about 4¾ cents, the lowest price in the history of the industry.[8] After the Stevenson plan had for a time maintained world prices for rubber, collapse of the plan was accompanied by a drastic decline in prices. Brazil has recently announced abandonment of the effort to maintain coffee prices by destroying a large part of the crop. When yellow lead pencils were being sold to be retailed for 5 cents, new manufacturers went into business to sell yellow pencils to chain stores to be retailed for half the price. Periods of high prices lead to spurts of investment. During periods of distress prices, investment is at a standstill and the severe competitive pressure induces members of the industry once more to seek an escape from price competition. The stability of investment policies which sometimes accompanies price maintenance in the field where price maintenance policies are for the time being successful is usually a mere incident in the development of wide swings in prices and investment, due in part to the price policies themselves.

In addition to the changes of investment in physical equipment, the fluctuating fortunes of price control necessarily involve changes in the capitalization of intangibles and in the investment devoted to these. Consumer good will and monopolistic advantage may be capitalized and sold if they provide an income, but the investments thus created are no more

[8] *Yearbook of the American Bureau of Metal Statistics*, 1936, p. 40.

enduring than the likelihood that the enterprise will derive an income from its advantages in the market. Thus the capital value of control over prices fluctuates with the effectiveness of the control, and the capitalization of new controls is necessarily an intermittent process. The significance of this phase of the matter can be no more than guessed at. It should be clear, however, that investments of this character are not limited to purchase of newly capitalized rights to income directly from the corporation involved. Such investments include also a part of the funds which enter the securities markets to bid up the prices of equities in going concerns.

VI

In saying that fluctuations of investment are partly responsible for policies of price control and that in turn such policies tend to accentuate the swings of investment itself, I want to make clear that I am not saying that investment would be a regular and orderly process were it not for price maintenance. Changes in standards of living, population, technology, industrial organization, and law necessarily produce uncertainties and fluctuations in market phenomena. Excess capacity is necessarily characteristic both of declining industries and of competitive industries whose productive methods are rapidly improving. With excess capacity and high overhead costs, an industry without price control would not, and does not, avoid fluctuations of investment. Such an industry suffers wide swings of prices and of profits and concentrates both its expansion and its replacements in its periods of prosperity. The fluctuations in the sales of agricultural equipment indicate roughly the degree to which investment is intermittent in an industry so competitive as farming. If all irrelevant influences could be removed, highly competitive industries would show booms in which excess capacity developed, followed by depressions until the redundant equipment had become obsolete.

But although instabilities of prices and of investment may appear in either situation, the tendency of efforts to control price is to introduce additional stimulus toward excess capacity, additional fluctuation in the level of price, and hence, in all probability, a greater instability of investment than would otherwise exist.

VII

From this point of view, measures to promote regularity in the operations of the capital goods industries are of crucial significance, not only for problems of unemployment, but for price problems. Stability of investment might go far to promote stability of prices, whereas a forced price stability can do little to regularize investment.

The problem of regularizing investment can be better attacked directly than by efforts to extend private or public controls over the day-to-day

transactions of the markets for commodities. If means can be found to limit the swings of the durable goods industries, a collateral effect may well be to simplify the task of preserving price competition in all industries.

A program to regularize the durable goods industries should depend, not upon price maintenance, but upon direct efforts to regularize the purchase of new equipment and the retirement of old. To present such a program is beyond the scope of this paper. Illustrative of devices which might be considered are: Better long-run predictions of demand and of capacity to produce, such as those with which the National Resources Board is now experimenting; a more orderly way of introducing new industrial processes, perhaps to be achieved in part through modification of the patent laws and in part through use of the techniques of investment banking; development of long-range plans and of systems of financing which will permit the timing of governmental and public utility construction to fill in the slumps of private construction; encouragement of financing methods which will promote regularity in private investment, perhaps partly by the development of accounting policies which will alter the significance of fixed charges and of depreciation reserves; further development of a public policy recognizing a public interest in orderly retirement of existing equipment, the beginnings of which have already been expressed in the Resettlement Administration and the Reconstruction Finance Corporation.

This listing is, of course, merely suggestive. It is intended to indicate my belief that industrial stability may be sought by means both more effective and less dangerous than private control over prices.

GENERAL INTEREST THEORY

BERNARD F. HALEY, *Chairman*

Four aspects of general interest theory were treated by those participating in this round table discussion: Max F. Millikan, "The Liquidity Preference Theory of Interest"; Paul T. Ellsworth, "The Elasticity of Investment Demand"; Walter A. Morton, "Intensive and Extensive Uses of Capital"; and Arthur W. Marget, "The Present State of Interest Theory and Mr. Keynes."

MAX F. MILLIKAN: At least five separate meanings of the doctrine of liquidity preference are to be found explicitly or implicitly in the works of Mr. Keynes. They may be classified as follows:

(1) *Formal meanings:* (a) The liquidity preference curve relates the total demand for money to various rates of interest assuming everything else constant. I call this the instantaneous-demand curve for money. (b) The curve is a locus of equilibrium positions. It shows the amount of money corresponding to each value of i (the rate of interest) as that amount which will in fact be demanded for all purposes at the equilibrium level of income which that i determines. I call this the long-period demand curve for money.

(2) *Substantial meanings:* (a) Liquidity preference may be regarded as essentially the same thing as the propensity to hoard. I call this the demand for idle balances. (b) It may be regarded as the preference of an individual for a certain average degree of liquidity in the assets he holds. This is liquidity preference proper. Note that increased average liquidity can be obtained by moving (i) into cash, (ii) from long-term into short-term assets, or (iii) from high- to low-risk assets.

Mr. Keynes, to make the theory useful for his purposes, had to make liquidity preference dependent upon the substantial meanings of the term and thus make the rate of interest for all practical purposes an independent variable. To make it formally correct he had to invent one or more of the formal meanings. Hence wherever formal correctness is at a premium he uses one of the formal meanings; where significance is at stake, he uses one of the substantial meanings. By slipping unobtrusively back and forth between the two he gives the appearance of presenting a single theory both useful and formally correct.

The use of the substantial meanings renders the theory formally incorrect if there are factors affecting i importantly which do not automatically affect either the demand for idle balances or liquidity preference proper. Such factors are: changes in the physical productivity of capital (due, e.g., to invention), an increase in income, and an increase in the marginal efficiency of capital due to expectations of increased future income.

On the other hand, formally correct theories of liquidity preference, if they can be constructed, are not as useful or convenient tools for the analysis of i as others already at hand. (a) Take first the device of the instantaneous demand curve for money. Mr. Keynes sets up this device only because he wishes implicitly to identify this curve with the demand for idle balances. If, as can be shown, the two concepts are quite different, the usefulness of the formal one vanishes. (b) Take next the long-period total demand curve for money. This

curve is not a useful tool for analysis because it is not applicable to dynamic conditions. As defined, the curve has meaning only in a state of given income expected to continue indefinitely. Finally, all the formally valid liquidity preference theories of interest fail to satisfy the criterion of relevance to a complex of rates.

The chief contribution of the liquidity preference doctrine has been to concentrate attention on the probable importance of the demand for idle balances and liquidity preference proper as two of the influences affecting the demand for claims on the various claims markets.

PAUL T. ELLSWORTH: The demand for capital is essentially inelastic in the short run. This is true, though for different reasons, whether expansion of existing plant ("widening of capital") or improvement of existing equipment ("deepening of capital") is in question. Concern here is primarily with long-term investment.

The demand for funds to finance expansion of existing plant is largely determined by cyclical influences, rather than by variations in the rate of interest. During depression, not only is the general level of demand low, but the prevalence of pessimism and the momentum of contraction have the effect of limiting what little investment in plant there is mainly to unpostponable replacement. During recovery, owing to existing idle plant capacity, the demand for funds for expansion is negligible. During prosperity, general demand is high, and optimism and the momentum of expansion tend to provoke a willingness to invest in additional plant which is quite insensitive to a rising rate of interest. During recession, the movement of costs, prices, and general demand are such as to discourage any investment in expansion of plant, regardless of the rate of interest.

The demand for loanable funds for the improvement of existing plant ("deepening of capital") also tends to be inelastic. This is true whether or not new inventions are involved. The decision to install more capitalistic, cost-saving equipment is based on judgment and estimate, rather than close calculation. It is necessary to estimate both the cost-saving capacity and the maintenance and depreciation costs of such equipment; both of these estimates are subject to a considerable margin of error due to the existence of uncertainty. Hence the potential net return is actually an uncertain range of possible returns, rather than a sharply definable rate. Moderate changes in the rate of interest will not appreciably affect the expected profitability of proposed improvements of existing plant. This conclusion is strengthened by the fact that the demand for funds for long-term investment is inelastic near the margin. Probably a large proportion of the equipment in any single plant or in an entire industry is well above the margin in its yield. Under conditions of large-scale production, the demand of a single firm for the costly but essential instruments of production is likely to be supramarginal and discontinuous. The truly marginal firm tends to disappear under conditions of imperfect competition, but in so far as it does persist it probably plays little part in the demand for loanable funds because of the difficulty of access to the investment market which such firms find.

WALTER A. MORTON: The long-term equilibrium rate of interest is a result of the demand for and supply of capital. I am dealing here only with demand. I believe an adequate understanding of the interest problem would be furthered by a return to the simple idea of Adam Smith that while a borrower in the first instance borrows money, what he desires for his money is concrete capital goods.

The return to this simple notion will enable us to make a further distinction necessary to understand the factors affecting demand: the distinction between the extensive and intensive uses of capital. In doing this we may rid economic science of many essentially metaphysical concepts of capital introduced by the Austrian and neo-classical economists.

By the intensive use of capital I mean that use which decreases the labor cost of producing a given quantity of output. By the extensive use of capital I mean that use which increases the quantity of consumption services or goods given off by the total of all economic factors of production.

Capital may be invested intensively with no prospect of increased consumer demand, or even with the prospect of a shrinking demand, or when industry is operating at a loss. For the intensive use of capital is that use which reduces cost. While investment is going on, the total demand for labor will be increased. When it ceases, the new equilibrium quantity of employment will be less and the total income of labor and the aggregate effective demand for consumers goods will be less.

By the extensive use of capital I mean that use of capital which, in order to yield a profit for the investor, must be accompanied by increased effective demand for consumers goods. The creation of durable goods which yield an increased output does not result in increased monetary demand for the services of these goods. All that the traditional theory shows is that new investment creates a larger income; it does not show that it creates an increased aggregate demand for consumers goods.

Since increased extensive investment is dependent upon increased aggregate demand for consumers goods, the remedy for depression is not wage reduction but a reduction in the rate of interest at which those who hold savings are willing to invest.

ARTHUR W. MARGET: I have placed in your hands copies of a more extended statement of my views on this subject than it is possible for me to present here in full. All that I shall do now is to summarize the principal points of that discussion.

I begin by laying down a proposition which I should have thought was self-evident; namely, that no one has a right to attack "the orthodox theory" on any subject unless he shows that he knows what he is talking about by citing the specific authors whom he regards as having held what he calls "the orthodox theory." Mr. Keynes in my opinion has failed to do so; and in my paper I have undertaken to demonstrate that on virtually every one of the specific points which Mr. Keynes advanced in his criticism of "the orthodox theory," he can be shown to be either ignorant or neglectful of the substance of received doctrine on the subject with which he is dealing.

From the earliest times a confusion of issues was engendered by the failure to distinguish, as a first step, the demand for and supply of money loans from the demand for and supply of "money." But also, from comparatively early times, definite progress was made toward the removal of this confusion. At the present time what we have available in "received doctrine" on the subject of the relation of money to the determination of the rate of interest is not a single coherent body of doctrine which deserves the name of "the orthodox theory," but a set of scattered fragments, ranging, on the one hand, from incidental suggestions with respect to both the general setting of the problem and matters of detail, to attempts (such as that of Schumpeter), on the other hand, to fit the relevant phenomena into a "system" embracing much more than the phenomena of money and interest.

Not only has Mr. Keynes neglected these earlier contributions to our knowledge of the relation of money to the determination of the rate of interest, but also his own contributions to the analysis of this problem in some respects represent a retrogression rather than an advance as compared with what is available in the rejected body of theory; and very frequently involve little more than the recommission of ancient errors or a bungling redoing of things already better done. In the more extended statement of my position which you have before you, I have attempted to demonstrate the validity of these criticisms. I have considered, first, the bearing of what Mr. Keynes has to say upon the problem of the effect of the demand for money for "holding" purposes upon the demand for loanable funds; second, his analysis of the marginal efficiency of capital; third, the bearing of his analysis upon the problem of the forces determining the supply of loanable funds; and fourth, the significance of his doctrine of "liquidity preference."

RATE OF INTEREST

WINFIELD W. RIEFLER, *Chairman*

Of those invited to lead the discussion at the round table on the rate of interest, only John B. Canning was able to appear in person. J. Franklin Ebersole sent a paper which was read by J. B. Hubbard. At the request of the chairman, Donald Woodward, of Moody's Investors Service, substituted for Harry White in the discussion of governmental mechanisms affecting interest rates.

PROFESSOR CANNING took as his subject certain supposed interdependences of business expectations, the rate of interest, and fluctuations of investment. He proposed, as theses to be examined rather than as assertions, two propositions that recur frequently in the writings of economists. These were: (1) "investment (or fluctuations of investment) depends on (is a function of) business expectations"; and (2) "the rate of interest plays significant rôles in determining fluctuations of investment."

He suggested that the first thesis is devoid of truth values not because it is false but because it has no meaning. Those who employ the term "business expectations" confer upon it no general defining boundaries. Without such boundaries no values can be determined for tabulation against corresponding values of the other variable in the expressed dependence. Neither do those who use the term restrict it to a partial set of mutually exclusive dependent variables in such a manner, say, as that in which "meteorologists' (weather) expectations" are restricted to such independently measurable variables as temperature, humidity, wind velocity, etc.

As a quantitative determination of investments at a given time economists commonly have in mind a sum of products. Each such product contains an enumerative multiplier (e.g., sacks of cement in stock) and at least one business-expectation multiplier (e.g., coming in of money, utilization of services). Such data, considered by themselves, may have meaning. Introducing these data into the thesis one gets "part of business expectations and a set of enumerative multipliers depend on all of business expectations." This does not make sense.

Both in traditional and current writings in theory, interest rates are supposed to affect fluctuations of investment in a variety of ways. Of these, Professor Canning selected for comment: (1) the influence of current rates on current decisions to install new capital goods; and (2) the influence of changes in rates upon the successive revaluations of goods used in production.

With respect to the first of these he took, by way of illustration, Mr. Keynes's development of "marginal efficiency of capital," "user cost," and "rate of interest" and sketched the operations necessary to apply this theory in a particular case: a decision by a manufacturer of a changing line of clay products to add or not to add a steam shovel for use in his clay pits. He suggested that to obtain the requisite data and to solve the equations to which the theory leads would cost more than a steam shovel—if, indeed, such a solution is possible. Businessmen do not think in such forms.

With respect to the second rôle, he recommended examination of the primary

data and the operations upon them from which actual revaluation figures emerge. In these there is rarely a trace of influence by any interest rate.

He did not deny that interest rates may have some positive influence on fluctuations of investment nor that disregard of interest rates may have disastrous consequences. He merely asserted that these two particular rôles are grossly overstated in economists' writings.

J. FRANKLIN EBERSOLE:[1] The best method of research would be to sit at the elbow of each major business executive and analyze the policy decisions made, as they occur, in order to ascertain the stimuli leading to each specific action and to estimate the relative weights of the various elements in each decision. Such an elaborate survey would supply more reliable conclusions than those now provided by a priori reasoning or those acquired by the methods of statistical research, in which the existence of correlation, with or without lag, is accepted as reflecting a complete view of the factors. Sampling of decision-making-in-practice is commonly known as the "case method." Fortunately, we have available for analysis a large number of cases presenting the problems which arise when business executives make decisions. The Harvard Graduate School of Business Administration has been accumulating business cases since December, 1920. The total number in the grand file reached 13,119 on November 30, 1937. These cases presumably cover the problems of business and are, therefore, peculiarly suitable for obtaining perspective regarding the apparent significance attached to interest rates as an obvious or direct factor in business decisions.

In order that every case in this collection involving interest rates might be located, the topics in the official index were compared to determine which ones would be most likely to reveal cases involving interest problems. The topics were then arrayed, from the topic thought most likely to reveal interest cases to the topic thought least likely to reveal cases containing interest problems. The objective set was to study in detail the cases within the first and each succeeding topical group, until the attenuating dividend received from the study of each succeeding group should finally become negligible. Positive results were obtained from the first 16 topics. Thereafter, the study proceeded topic by topic until negative results were obtained from 17 consecutive topics. In the aggregate, 762 different cases were selected by this method.

When the results of the intensive study of the 762 cases selected were tabulated, there were 118 cases involving problems of expansion or contraction in which interest rates might have been a factor, in 91 of which the interest rate was not mentioned, and in 27 of which the interest rate was mentioned. Of the 27 cases in which interest rates were mentioned, there were only 10 in which it was a factor, and none in which it was the sole or controlling factor.

Before drawing conclusions, we must consider some of the possible limitations of the data and sources. First, there is the fact and method of sampling. Second, there is the possibility of overweighting in one phase of the business cycle. The production of cases, however, was reasonably continuous. Thirdly, there is the inevitable doubt as to the ability of the field men to discover or interpret, and of the business executives to recognize and describe, the bases of their decisions

[1] Summary of paper on "The Influence of Interest Rates upon Entrepreneurial Decisions."

and actions. The field men used had each had not less than six years of collegiate study, of which the two graduate years had been spent in the intensive work of the Business School. Fourth, there is the possibility that some cases may have been written for pedagogical purposes, with the concomitant oversimplification designed to present single issues even in complex situations. Fifth, there is the possibility of bias, because the preconceived notions of professors may have exercised an unfair influence upon the objectives and the sleuthing of the field men. These fourth and fifth possibilties of limitation cannot be appraised satisfactorily by the use of internal evidence. We must conclude that there is a strong presumption favoring the thesis that the interest rate is seldom considered as a factor in entrepreneurial decisions to expand or contract, and the interest rate is a controlling factor in a negligible number of instances.

MR. WOODWARD concluded the formal presentation with an outline of the various governmental mechanisms which may influence interest rates.

He noted that during the past several years a large number of mechanisms by which governmental bodies can affect various interest rates have come into being. In part they have been created accidentally and in part deliberately.

These devices as used so far have actually influenced various interest rates. By interest rates, he stated he meant the actual quotations on various types of loans. No consideration was given to more basic and longer-term factors affecting interest rates. The more important devices which he discussed were as follows:

1. Federal Reserve discount rates.
2. Federal Reserve acceptance buying rates.
3. Federal Reserve open-market operations.
4. Margin requirements for the purchase of securities.
5. Unpaid member bank subscriptions to Federal Reserve bank stock.
6. Shifting of public balances between commercial and Federal Reserve banks and between various regions of the country.
7. Changes in reserve requirements.
8. SEC requirements as influencing the volume of new securities.
9. Government competition with existing lenders through such agencies as the RFC and the Farm Credit Administration.
10. Taxation through many devices such as surtaxes, the undistributed profits tax, tax exemption, and forced savings.
11. Influence of the volume of investment securities and loans which can be held by banks.
12. Sterilization and desterilization of gold.
13. The stabilization fund operations.
14. Revaluation of the dollar.
15. Operations of social security and other trust funds.
16. Government insurance of risk such as in the FHA.
17. Redefinition of central reserve, reserve, and country bank classifications.
18. Bank chartering.
19. Bank supervision.
20. Influences on the gold flow.
21. Influence on the institutionalization of savings.

He stated that the extent to which these mechanisms have been used and are a factor in various money rates have been inadequately explored. Likewise, but little consideration and discussion apparently have been devoted to the consequences of the utilization of these mechanisms.

In closing he suggested that these mechanisms possibly may have had the

effect mainly of creating disequilibrium, that they were merely the equivalent of holding a match against the thermometer of interest rates. On the other hand, he suggested it was possible than an intelligent and integrated use of these mechanisms and others which should probably be added to the list might contribute toward financial stability and progress.

In the general discussion which followed, there was little exception taken to the direct implications of the preceding discussion; namely, that the economists may have overemphasized the immediate importance of interest rates on entrepreneurial decisions and oversimplified their explanation of the manner in which they operate. The majority of the commentators, on the other hand, were concerned that an appreciation of these points should not lead to an equal error of emphasis in which the basic rôle played by interest rates was neglected.

SECURITY REGULATION

RAY B. WESTERFIELD, *Chairman*

Present-day regulation of the security market takes several forms: the Securities and Exchange Commission controls the issue, syndication, distribution and sale of new securities, the operations and government of the securities exchanges and the over-the-counter market, and the holding companies in the utilities field; the Board of Governors of the Federal Reserve system controls the margins required in brokers' loans, the amount of loans made by member banks on securities collateral and the character of the investment portfolios of member banks; the Federal Reserve and Treasury policies influence the market; and the different states through their blue-sky laws help to direct investment. Not all these phases of regulation were discussed in the Round Table; nevertheless, the discussion was broad in its coverage.

JOHN E. MCDONOUGH discussed the regulation of trading in securities. The Securities Exchange Act of 1934 enjoined the Commission to execute certain carefully phrased and rigidly prescribed duties, as well as to administer other broader policies permitting of considerable discretionary treatment. Its authority relative to regulation is not exclusive; the Board of Governors of the Federal Reserve system controls margin requirements.

Federal regulation was the product of its time, an answer—too long delayed—to a crying need. It was never intended as a panacea for the ills of the business cycle, nor did it presume deftly to extract the risk element from security trading by stabilizing and defining security values. The Commission is pledged to a policing of the methods and operations of the market; but it does not assume the slightest responsibility for security prices or security price movements, except when such price trends are greatly affected by the market machinery itself. Moreover, any technique of trading or process of marketing securities would not be valuated, and discouraged or approved, merely on the basis of its influence or lack of influence on security price movements. This is because other worth while achievements might make it desirable to retain such techniques or processes even though they actually contributed to security price fluctuations.

The work of the Trading Division of the Commission divides itself into three parts, regulating (1) trading in listed securities on organized exchanges, (2) trading over the counter, (3) trading on the organized exchanges in unlisted securities. (The speaker described what has been done in each of these fields.) Most has been accomplished in the first field: namely, the registration of the exchange; full disclosure of the government and operations of the exchange; full disclosure of facts regarding the securities and the companies whose securities were traded on the exchanges; prescription of rules designed to discourage excessive speculation, to clarify the fiduciary obligations between broker and customer, and to eliminate the most objectionable practices. The accomplishments of these rules to date have not been entirely satisfactory, partly because the exchanges have not fully assumed and vigilantly discharged the responsibility of administering them. The rules and their enforcement will be improved.

The Commission also is directed to stop manipulation of security prices

through matched orders, wash sales, pools, and the issue of false or misleading statements. This is very difficult to enforce, but the Commission is engaged in a serious and vigorous attempt to develop a technique of detection and enforcement which will function with a minimum of disturbance to the innocent and law-abiding element in the security markets.

Another phase of regulation is designed to prevent unfair use of information by insiders. This is done through a system of monthly reports, from every director, officer, and 10 per cent beneficial owner, of any change in his beneficial ownership. Despite criticisms, undoubtedly an effort will be made to preserve the original wholesome intention of the provision purged of any serious incidental disadvantage in its operation.

CARL E. PARRY discussed the phase, margin requirements on security loans as a means of controlling inflation. Power over margin requirements was never given to any central bank until it was given in 1934 to the Federal Reserve system. The power to raise margin requirements, when compared with the usual powers of the central bank (including the power to raise discount rates, to sell securities in the open market, and to increase reserve requirements), is found to be quite different in its nature, since these other powers all affect the supply side of the money market and tend to increase the cost of credit to all borrowers, whereas the power to raise margin requirements affects the demand side and may even tend to reduce the cost of credit. A few general ideas as to how this new power should be used may be derived from the experience of the last twenty years, as summarized on certain simple charts: comparing the course of prices during this period for British stocks in London and American stocks in New York suggests that the central bank should concern itself not with all the fluctuations but only the more extreme fluctuations; comparing the course of stock prices in the United States with the course of stock exchange credit (as represented by brokers' loans) shows that the two tend to move up and down together, indicates that large increases in stock exchange credit tend to follow rather than to precede substantial upswings in stock prices, and suggests that if wide fluctuations in stock exchange credit are to be avoided restraint must be applied in the early stages of the upswing. It is quite obvious that the upswing in stock prices from 1935 to 1937 was accompanied by relatively little increase in stock exchange credit, and one of the factors in this development was the margin requirements, including the increased requirements imposed by the Federal Reserve Board early in 1936. This increase, put into effect after stock prices had risen substantially, after stock exchange credit had been increasing at a moderate rate for some months, and at a time when stock prices were rising rapidly, on an active market, into new high ground, was an increase that seems to have been well timed. This was a time when the general policy of the system was directed towards monetary ease and when there seemed to be no inflationary symptoms outside of the securities markets. Since the autumn of 1935, a better measure (or index) of stock exchange credit has been currently available, the "customers' debit balances" of brokerage firms carrying margin accounts, for which monthly figures are published currently in the *Federal*

Reserve Bulletin. These figures, which began to increase in the autumn of 1935, have decreased sharply during recent months, along with the recent slump in stock prices. At the time of such a decrease, there is very little that the system can do, through the use of its power over margin requirements, to prevent the decrease; the system's function must be to apply restraint to the antecedent "boom," and to do so with effect the system must act in the early stages of the boom.

FRITZ MACHLUP spoke on the subject of the stock exchange as a gauge of credit policy and a regulator of investment. If corporations raise the major part of their funds through security issues, a control of the issue of new securities and a control of the funds made available to security buyers can have a considerable effect on the flow of funds to real investors.

But can such control succeed in diminishing fluctuations in investment? This may be answered in the affirmative. It is in the upswing that the corporations' demand for funds, i.e., their supply of new securities, increases. A rigorous control of the quality of securities (and perhaps more rigorous in good times than in bad times), might well take some peaks out of the curve of new flotations. On the other side, a check on the availability of bank funds to margin buyers will most likely diminish the supply of funds to corporations, i.e., the demand for their new securities. Thus strict margin regulations, usually considered as a measure of "qualitative credit control," may function as quantitative control, because the would-be borrowers of security loans would not borrow at all for any other purposes.

All this, however, does not yet imply that we know much about the timing of the control measures. What are the gauges for credit policy in general and security control in particular? Is perhaps a rise of security prices a good index for such purposes? Professor Machlup does not think that the monetary authorities pretend to be judges of what is the right level of security prices. But if security prices rise continuously over some greater length of time, in spite of new security issues, the presumption that newly created bank funds and dishoarded funds are flowing to corporations is stronger and this invites control measures.

A serious qualification, however, destroys any certainty in these matters. Only a small part of the new capital raised by new corporations is put to real investment in plant and equipment. But it is the flow of funds into such real investment which we want to control. We may have observed a rise in security prices, an increase in security flotations, and an increase in brokers' loans "of others," and yet be quite in the dark about the flow of funds to the stock market and to corporations. Brokers' loans of others than banks may merely be the expression of the simple fact that sellers of securities loaned to buyers of securities. Corporations, i.e., sellers of new securities, by giving loans to the stock market, lend the proceeds of the sales to the purchasers of securities, so that, in the end, no funds have flowed into the market and no funds have flowed to corporations and no funds have been made available for real investment. Thus in many respects the available data do not give sufficient indications of what really happens.

RAYMOND W. GOLDSCHMIDT treated the importance of investment intermediaries for the regulation of security markets. As a result of the rapid increase over the last decade of indirect investment through intermediary institutions, the influence of the regulation of security markets on such institutions and their reaction to regulation have become of crucial importance in assessing the past and the possible or probable future effects of regulation on the security markets.

The term "indirect investment" is used here to embrace all those situations in which an individual investor does not buy and hold stocks and bonds directly but either keeps his funds with a financial institution (such as a bank, an insurance company, or an investment company), which in turn proceeds to buy and hold securities, or entrusts the administration of his own portfolio of securities to a trust company or an investment counsel organization while retaining ownership in the securities.

At the present time about one-half of all of the securities outstanding in this country are held not directly by their ultimate beneficial owners, but indirectly through an intermediary investment institution. Of the annual increase in securities outstanding, probably far more than one-half is now being bought by intermediary institutions. There are good reasons to assume that the trend towards indirect investment in securities is continuing with the result that before long the great majority of all new investments in securities may be made indirectly.

By far the most important effect which the regulation of our security markets has had for intermediary institutions is the vast increase in the volume and the considerable improvement in the quality of the information on individual issues of securities and their issuers now being made available. Experience has proven that it is very difficult to induce the individual investor to read the exhaustive but voluminous information about new as well as, periodically, about outstanding issues called forth by the 1933 and the 1934 Acts. Intermediary investment institutions, however, have made immediate and full use of the additional information put at their disposition through prospectuses, registration statements, and other documents filed with and published by the Securities and Exchange Commission. Much of this material is of a type that they had long wished for. Some of it they had been unable to obtain from any issuer of securities; some material a few important but particularly secretive companies had refused.

From these aggregate data there may be derived a multitude of financial ratios which will permit a much closer study of the financial situation of individual industries and a much easier and more reliable analysis of the comparative status of individual companies and issues of securities than has been possible hitherto.

Another very important field in which regulatory legislation promises to become a valuable aid to intermediary investment institutions is that of corporate defaults and reorganizations. Since most large issues at the present time cannot be successfully floated unless at least part is taken by institutional investors, they must be acceptable in form and quality to institutions. Likewise, there is hardly any reorganization in which some intermediary institutions are not in-

volved as security-holders; in protecting their own interests, they also often fight the individual investor's battle. It should not be forgotten that there are other forces exercising a much stronger and more basic influence on the direction in which these intermediary investment institutions travel. The most important of them are monetary policies, taxation, and direct regulation.

FRITZ LEHMANN attacked the subject from the angle of the influence of the stock market on the rates of interest. The relationship of stock prices and interest rates permits no broad generalization. The time-honored opinion that stock prices and bond prices move in opposite directions and that high interest rates depress stock prices has never been correct and has been strikingly disproved by the developments of the last fifteen years.

The actual movements of stock prices, bond prices, and interest rates yield no answer as to what is the influence of the stock market on the rates of interest. Such an answer can be furnished only by an interpretation of actual events for which it is prerequisite to clarify the possible relationships. For such clarification it must be assumed that stock prices rise not because of a change in the rates of interest but because of a more optimistic expectation of future earnings. A good practical instance is the increasing consciousness of a continuous upward trend in earnings of equity shares which was the predominant factor in the bull market of the new era.

The effects of rising stock prices on the rates of interest depend upon a number of factors, some making for higher, some for lower interest rates.

Rising stock prices appear to give on the average an incentive to increase consumption and to decrease savings and make so far for an increase in interest rates. Second, rising stock prices must have a tendency to increase the capital demand in a number of branches and of different types of enterprise. This also makes for higher interest rates, other conditions being unchanged.

If the proceeds from the sale of stocks are not reinvested by the sellers but left inactive in deposit accounts, rising stock prices may initiate a deflation which soon will defeat the boom tendency in the stock market. The same will happen if rising stock prices are causing people to switch to securities of other countries or will induce the central bank authorities to tighten the money market.

On the other hand, rising stock prices may induce margin speculation financed by additional bank credit. The proceeds from the sales may partly flow over into the bond market and raise bond prices at the same time when stock prices rise. Since increased deposits mean increased reserve requirements, there will be a tendency for money rates to go up. If rising stock prices stimulate purchases by foreigners and lead to an influx of gold, the money market will be made easier unless action is taken against it by the central banks or the government. A rise in stock prices may also produce a rise in bond prices if inactive deposits are used for the purchase of stocks.

If the economic system is not operating at relatively full capacity, rising stock prices will rather tend to lower the yields on bonds. The main factor working in this direction in the past was the willingness of speculators to increase their borrowing and the willingness of the banks to expand their credit and deposits in response to the speculators' demands. The most important influence which the

stock market exerts on the short-term interest rates, but probably also on the long-term rates, comes as the result of the reaction of the monetary authorities to the movements of stock prices. The history of the money market during the twenties is full of proofs for this contention.

KARL R. BOPP considered fluctuations of security markets and the flow of international short-term funds. The present discussion is restricted to the movement of capital which results from foreign transactions in domestic securities and to stock prices on the New York Stock Exchange. Two problems will be treated: first, the result to foreigners of their recent ventures in our securities; and second, the relationships between stock prices and net foreign transactions in our securities.

The cumulative capital movement which results from foreign transactions in domestic securities represents the cost to foreigners of domestic securities acquired since January 1, 1935. If we assume that the prices of foreign holdings of domestic securities acquired since that date have varied approximately as has the index of stock prices published by the Standard Statistics Company, we can estimate at any time the market value of these holdings. A chart (not her appended) portrays the weekly position of these two items of "cost" and "value" of such foreign holdings. The distance between the two curves shows the paper profits or losses to foreigners resulting from their holdings. The third curve shows Standard's index of weekly closing prices of stocks. Unfortunately, the latest data available refer to June 30, 1937.

It is evident that the curves of cost and value diverge only gradually during extended periods of rise in stock prices. Continuous heavy purchases on the rise kept the average cost of securities to foreigners close to the market price. Foreigners' paper profits remained a relatively small percentage of their total cost. It is also evident that the curves of cost and value converge rapidly with each severe break in stock prices. In other words, the paper profits were subject to rapid dissipation by any severe break in the market. "Hot money" in our stock market has burned foreigners severely. The easy assumption that foreigners hold the key to the movements of our stock prices and that they make easy fortunes on a shoestring invested in Wall Street or that as a nation it has cost us huge sums to keep these funds is easier to make than to prove. It would appear, on the contrary, that the United States could now liquidate those foreign claims which have arisen on all accounts since January 1, 1935, for very appreciably less than was received when the claims were created.

The second problem concerns the relationships between changes in stock prices and changes in foreign holdings of domestic securities. The correlation between changes in weekly closing prices of stocks and net capital movement in the next week resulting from transactions in domestic securities is +.35. Although the average net purchases of domestic securities was 8¼ million dollars a week, every break of more than four points in the index of stock prices has been followed in the ensuing week by net sales of securities. The two largest breaks in prices were followed by the two largest net sales of securities. At the other extreme, no rise of over four points has been followed by any net sale of

securities. All major breaks as well as a number of minor breaks were followed by foreign selling or reduced buying for periods longer than a week but of varying duration.

It appears that foreigners have been following stock prices and that they have been from one to five weeks late in catching temporary lows for purchase or temporary highs for sale. Speaking inexactly, their operations have tended to aggravate persistent movements in one direction, but occasionally have tended to stabilize very short-term changes in direction of stock prices.

JAMES C. DOLLEY, by a statistical approach, estimated the effect of government regulation on New York Stock Exchange trading and price continuity. His conclusions were as follows:

1. During the past two and one-half years, the New York Stock Exchange has become a markedly more discontinuous market for stocks. With a general trend toward declining trading volume, stock prices have shown an increasing tendency toward wider spreads from sale to sale and wider ranges in bid-ask quotations. So far as indicating a market trend is concerned, it is probably correct to say that a change of two or three points in stock prices today has no more significance than a change of one point several years ago.

2. Trading both by the outside public and by stock exchange members diminished noticeably in volume during the period studied. Member trading for own account has declined relatively more than public trading, the volume of the former being about 10 per cent less in proportion at the end of the period than at the beginning.

3. Of the various categories of exchange member trading for own account, floor trading has been most affected. The decrease in this type of trading has been pronounced, declining over the period 35 per cent in absolute amount and 30 per cent in relative volume.

4. The regulations which have had the greatest effect on trading volume unquestionably have been those relating to initial margin requirements. However, diminished trading volume in recent months cannot be blamed upon any single government regulation. Rather, it seems probable that the long succession of new rules and regulations has exercised a cumulative effect, gradually discouraging more and more traders and either driving them out of the market altogether or reducing their activity.

5. Whether stimulated by government regulation or not, the volume of odd-lot transactions increased during the period both in absolute and relative amount. It seems reasonable to believe that the new controls have operated to some extent at least to build the confidence of small investors in common stocks as investment media.

ALEXANDER SACHS reported his findings in a statistical investigation of the impact of taxation and the regulation of the security market on capital formation and financing. In his investigation he used data from the income accounts and balance sheets of twenty-six representative American corporations having assets of 6 billion dollars from 1933 through 1936 and of sixteen corporations having 2 billions of assets for the first half of 1937. He examined year by year the

financing requirements (additions to gross plant, increases in inventories, and increases in receivables) and the sources of financing (depreciation, charged to income, retained profits; that is, after cash dividends, funds secured from capital markets and from banks, increases in short-term liabilities, drafts on cash, and certain residual items untabulated, such as realization on investments, changes in reserve, etc.).

The conclusion which emerges with considerable clarity and force from the detailed analysis of the processes of American economic recovery financing since 1933, as reflected in the representative companies in industrial groups selected for their dynamic characteristics in the cycle, may be summed up as follows: (1) With the progress of the recovery a critical situation has been developing, due to (a) the lag in the reopening and the ensuing malfunctioning of the new capital markets, and (b) the strains from the undistributed profits tax of 1936, imposed as that was without regard to the needed replenishment, after unparalleled losses, in the working capital of American enterprise to meet recovery and prosperity conditions. (2) With the attainment by the summer of 1937 of levels of activity and profits which, while short of prosperity, became vulnerable to the rising and cumulative impacts of the new tax burdens, the undistributed profits tax, in conjunction with the capital gains tax and the distortions of the market mechanisms, brought about an arrestment of the process of capital formation and a crippling of the functioning and the channeling of the economy's savings for the maintenance, not to mention the further improvement, of the levels of production and employment, and thus rendered inevitable a synthetic depression. (3) Indeed, by the end of 1936 the working capital position of American industry, related to the levels of activity and to historical prudential normals, began to be impaired and this impairment was accelerated in the first half of 1937. (4) In the course of 1937 the very continuance became gravely threatened by these maladjustments, from (a) the stagnation in the forward or new issues capital markets, (b) the disruption and deflation of the markets for outstanding capital, and (c) the tax-imposed deprivation of the corporate savings for internal capital formation. (5) The causes of this impasse which has developed, notwithstanding accumulated shortages and the absence of any excesses in the partial recovery to date, present marked contrasts with the earlier American recoveries and the contemporaneous further advanced and more widely diffused British recovery. (6) The arrestment of the capital formation process and the consequent foreshortening and contraction of business long-term prospective and commitments necessarily involve a lowering of the levels of activity and employment in both producers and consumers durable goods industries and a throwing back of the economy closer to subsistence consumption levels. (7) Hence, with a recession having been made inevitable by the combination of extra-economic and economic factors and having, as it is believed, already begun (September 1, 1937, forecast), the joint task of government and business leadership is to prevent the development from the cumulative extra-economic maladjustments of a degenerative instead of a regenerative intermediate cyclical readjustment. And finally, (8) the outstanding prerequisite for such a solution is the co-ordinated release of the economy from the specific restraints and burdens that are as incompatible with the social objectives as they are with the

economic functioning of the system, constituting as they do a sort of gratuitous reversal of economic trends which, if uncorrected, could lead to a synthetic, dynamic deflation in the economic system.

In the discussion from the floor, James F. Hughes remarked that if the government restricted the flow of bank credit into the security market, it will then have to act as the expander of credit or industry will fail. Kemper Simpson cited other statistical studies made of the questions attacked by Professor Dolley and criticized some of the latter's methods. James L. Knipe cited examples of stocks having extremely thin markets apparently caused by government regulation.

CORPORATE PRICE POLICIES

FREDERICK B. GARVER, *Chairman*

The following summaries were prepared by the participants.

GUSTAV SEIDLER: The behavior of the prices of many products of corporate business activity is characterized by a high degree of stability as compared with the behavior of agricultural and other flexible prices. The reasons for such price behavior of corporate business products are inherent both in the cost and market structure of modern industry. The fear of ruinous price wars engendered by high overhead costs, the expectation of a low degree of responsiveness of demand to a lowering of prices, the small number of competitors in many fields of industry, and other factors lead to "price leadership" and general stabilization of price quotations.

While recent depressions thus showed a relatively small drop of the price level of certain lines of manufactured products, the drop in the volume of national investments was extremely severe (a drop of approximately between 60 and 80 per cent). What kind of relationships—if any at all—do exist between this price stability of many manufactured products and the severe fluctuations of investments? Generally speaking, the effect of rigid prices is to intensify the deflationary processes taking place during a depression and thereby to intensify the amplitude of all cyclical fluctuations including the movements of investments. However, there appear to be specific situations in which the stabilization of certain prices tends to smooth out fluctuations of investments. The experience of certain branches of industry suggests that prices which remain stable even in the face of a general fall of price levels tend to attract capital investments to a certain extent to these fields of industry even in times of depression. This is especially true if the demand for the product of these industries is relatively inelastic or, otherwise, if technological developments offer new labor-saving devices and centralized industry control anticipates increase of demand in the next period of business prosperity.

Any measures which would strengthen price competition and thereby make prices more flexible and more readily responsive to changes in the volume of purchasing power would tend to diminish the amplitude of all cyclical movements including the fluctuations of investment. Again, co-operative and government measures tending to work in the direction of maintaining or restoring the balance of all elements of the cost and price structure would likewise tend to mitigate business cycles with their accompanying severe fluctuations of investment.

L. G. REYNOLDS: The principal question before us is whether greater flexibility in the prices of basic materials would reduce cyclical fluctuations of investment. It seems generally agreed that the demand for one of a group of materials is markedly inelastic. I should like to suggest as a working hypothesis that the demand for capital goods (and therefore for all materials) is also inelastic and that it becomes more inelastic during the depression and prosperity phases of the cycle. There are several reasons why inelasticity in the demand for capital goods

may be assumed. First, the demand for capital goods is a derived demand. It will normally be inelastic, therefore, where the demand for the finished good is inelastic or where capital costs form a small proportion of total costs. Second, there are at all times industries whose demand for capital goods is inelastic for special reasons. The trend of investment in textiles, railroads, and shipbuilding, during the past decade, for example, would probably not have been affected very much by lower steel prices. Third, opportunities for unusually profitable investment seem to be linked with the progress of discovery and invention, which is notoriously irregular. The view that the demand for capital goods becomes more inelastic in prosperity and depression rests on the well-known bias of producers' anticipations during these periods. During depression producers are extremely unwilling to expand their plants, and may not even replace existing equipment as it depreciates. During prosperity, an unduly optimistic view of the future trend of demand for consumers goods leads to overbuilding.

If this view is correct, it follows that the level of capital goods prices is of little importance during certain phases of the cycle. Once recession is well under way, reduction of basic material prices can probably do little to check it. Conversely, moderate increases in these prices during prosperity will probably not prevent boom conditions from developing. In the early stages of recovery, however, low prices for capital goods will certainly stimulate the recovery process. Again, a prompt reduction of capital goods prices might help to check the development of a recession. If the cost of equipment were reduced at a time when producers are still reasonably optimistic, they might be induced to make fresh investments, and this increased spending would in itself help to make their anticipations come true. There is also some reason to believe that the volume of residential construction might be maintained at a relatively high level through a prompt reduction of building costs.

Admitting these qualifications, I still see no reason to believe that greater flexibility of prices would alter the general outlines of the cycle as we now know it. At certain points in the cycle, and as regards certain lines of investment, it would undoubtedly have an alleviating influence. The major remedial measures, however, are probably to be found elsewhere.

FRANCIS M. BODDY: The effects of various price policies followed by firms faced with a change in demand on the investment of resources in those firms will vary with the competitive situation of the industry in question. If the industry is operating under conditions of pure monopoly the absolute amount of investment may be well below the level of investment under pure competition, and the relative fluctuations in output and hence in investment may not be exactly the same under these two different sets of conditions as the firms make the best adjustments to the changed demand, but they should be of the same general order.

Under conditions of monopolistic competition there are various policies open to each producer, and the choice depends on the competitive situation. If entry is restricted and the number of producers small, each may accept his present share of the general demand and the whole group may follow the policy of the monopolist—setting an optimum price, output, and investment (with due

regard to the degree of restriction on the entry of new firms) in accordance with the change in general demand. The investment fluctuations under such conditions would be of the same relative order as would arise under pure monopoly and pure competition.

If, however, through fear of starting a ruinous price or product competition, all producers tend to hold to existing prices more rigidly than would be indicated by the optimum adjustment, then output and investment would bear the brunt of the changed demand, and investment fluctuations would be somewhat greater than in the preceding cases.

Finally, if the producers are engaged in active efforts to get larger shares of the general market, then each producer must administer his price, investment, and product improvement policies with that end in view. If each believes that he can outmaneuver his rivals by a pricing or product improvement policy, each one may expand his investment beyond the level which he finally finds to be the real optimum. These actions lead to temporary overcapacity which restricts further investment until obsolescence or increasing demand absorbs it. The resulting fluctuations of investment may well be much greater than in the previous situations. The failure of administered prices to stabilize the investment in an industry in this situation of active rivalry, however, is not due to a lack of price administration.

A pure competitor has no possibility of administering his price; a pure monopolist need only estimate the general demand changes correctly to administer a price, product, and investment policy wisely; but an active rival in a situation of monopolistic competition must, in addition, correctly estimate the interacting effects of his own policies and those of each of his rivals, and miscalculations may lead to rather large and simultaneous fluctuations in investment in each of the firms concerned.

RUFUS S. TUCKER read a paper[1] on reasons for price rigidity in which he discussed the phenomenon now known as "administered prices," i.e., prices which are announced by the producer and kept unchanged for an appreciable period of time. This phenomenon is generally supposed to be caused by the existence of only a small number of producers in a given industry, each one being so large that his policy affects the market price of the product of the whole industry. This explanation of administered prices seems to be erroneous and the phenomenon of stable prices for manufactured products has existed as far back as there are any records of prices.

Detailed charts showed that in the depression following 1837 and in the depressions of the seventies and the nineties the proportion of the rigid prices to the total was greater than in the recent depression. The stability of prices of manufactured products as compared with agricultural products was well known to Adam Smith and his successors and is not inconsistent with their theories of demand and supply. It is caused by differences in ability of producers to control the output and by differences in the elasticity of demand. Producers differ in the length of their producing season, the perishability of their products, their

[1] This paper is to appear *in extenso* in the March, 1938, issue of the *American Economic Review*.

immediate needs for cash, the proportions of direct to overhead costs, and especially the proportions of out-of-pocket costs to book costs. The elasticity of demand changes from boom to depressions. Farm products have always been more flexible in price than manufactured goods because of the inability of farmers to control the climate and because of the relative unimportance of hired labor in agriculture. The increasing size of industrial units has not increased the rigidity of industrial prices which are now less rigid than they were a hundred years ago.

In the discussion which took place from the floor, Alexander Sachs stressed the unreliability of index numbers when used to show relative changes between manufactured goods, such as automobiles, and farm products. The prices of the former, he asserted, are often "nominal" prices. Changes in the serviceability of the good often offset the apparent gain in the prices of such goods. Mordecai Ezekiel observed that although Mr. Sachs's point in respect to automobiles might be correct, the same increase in quality could also be found in many farm products.

FISCAL POLICIES

By ARTHUR D. GAYER
Columbia University

The topic that has fallen to my lot is very large and complex. In the brief space of time at my disposal I shall be able to discuss only certain major aspects of the problem. I propose, therefore, to confine myself largely to considering the general economics of a so-called "compensatory spending" fiscal policy—which means, in depressions, deficit-financed pump-priming. I shall take up in succession, first, briefly, the a priori case and, next, in more detail, the empirical case. The latter will be treated in terms of American experience during the past eight years, including analysis of the current recession.

I. *The A Priori Argument for Government Compensatory Spending*

The case for a policy of government compensatory spending has usually in the past been stated in terms of flexible public works expenditures. But the analysis applies, in most of the fundamental respects, equally well to noncapital expenditures. The arguments pro and con are too familiar to you all to require their detailed restatement here. I have expressed my own views on the subject in various published writings[1] and do not propose to repeat them in this paper. In its current formulation the a priori case for compensatory spending, and especially for pump-priming in depressions, stems largely from the work of R. F. Kahn and J. M. Keynes, and runs in terms of their concepts of the "employment multiplier" and the "investment multiplier." Regarded as a theoretical demonstration of the virtues of such measures, however, this type of reasoning suffers to my mind from the defect of assuming just what needs to be proved; that is, the validity of the argument rests entirely upon a series of assumptions, which, theoretically, may or may not be justified, depending upon the given circumstances. Personally I feel, and hope presently to show, that in the conditions envisaged in recent years by Keynes, Kahn, and the "pump-primers" generally, those assumptions were in fact largely justified as a practical matter. But there is no way of demonstrating in advance just what the consequences of expansionist policies will be. The advocates of such policies in depressions imply that the "multiplier" will always be positive, though granting that it may be larger or smaller depending on the magnitude of the "leakages." But there is no reason why it could not conceivably, in certain circumstances, actually have a negative value. Expressed in nontechnical terms, the crucial question with regard to public

[1] Especially my *Public Works in Prosperity and Depression*, 1935, *Monetary Policy and Economic Stabilization*, 1935 and 1937, and *Public Works and Unemployment Relief in the United States*, 1936.

spending as a recovery measure is whether its directly beneficial effects in stimulating consumption are outweighed or not by the injurious indirect effects that it may have on private investment through its repercussions on the budget, the bond market, building costs, the state of confidence, and future expectations. In brief, the theoretical controversy sums up as one between the direct "reflationary" effects versus possible induced "deflationary" effects.

For example, Keynes's purpose in *The General Theory* was to show how a given increment of investment will bring about a much larger increase in total income and employment. The multiplier is defined in terms of the marginal propensity to consume. Professor Haberler has conclusively demonstrated, to my mind, that Keynes, by assuming something about the marginal propensity to consume, assumes something about the multiplier, and treats a relationship by definition as a causal or empirical relationship between investment and income.[2] In the formal sense the propensity to consume is, indeed, merely another aspect of the multiplier. In the empirical sense the two concepts can be distinguished, but then it becomes impossible to deduce the multiplier from the propensity to consume. The value of the multiplier, as a practical matter, will depend upon various factors such as the extent of the leakages of expenditures into money balances and the effects that the new spending produces on the marginal efficiency of capital and on the income velocity of money. In fine, the argument begs the question of the relation between increases in investment and increases in income. We cannot tell what effect a change of investment will have on income until we know what the change in income is![3] The effect depends upon a series of variables wholly independent of the formal relationship. The value of the multiplier can be determined only after the effect on income has been produced.[4]

[2] G. von Haberler, "Mr. Keynes' Theory of the Multiplier," *Zeitschrift für Nationalökonomie*, Band VII, Heft 3, 1936, pp. 299-305.

[3] I am indebted to my colleague, Mr. Raymond J. Saulnier, for this point, which he elaborates in his forthcoming book on *Contemporary Monetary Theory*.

[4] Keynes's concept of the propensity to consume is highly ambiguous. (See F. H. Knight, in *The Canadian Journal of Economics and Political Science*, February, 1937, p. 104, and A. H. Hansen in *The Journal of Political Economy*, October, 1936, p. 675.) Its meaning seems to change continually with the context, as, for instance, from the relationship between the absolute level of income and consumption to the relation between changes in these quantities. Furthermore, Keynes appears to assume without argument that it is always necessarily an increase in investment, not consumption, that generates an increase in income. More important, he states that "in given circumstances a definite ratio, to be called the multiplier, can be established between income and investment"; and again, that "a precise relationship is established between aggregate employment and income and the rate of investment." (*General Theory*, p. 113.) Actually, despite the claim of definiteness and precision there is little justification for predicting what effect a given increment of investment will have in increasing income. It is not very helpful to be told that "there is always a formula . . . relating output of consumption goods which it pays to produce to the output of investment goods." (J. M. Keynes in *The Quarterly Journal of Economics*, February, 1937, p. 220.) The reverse statement would hold equally good: there is presumably some formula relating the output of investment goods that it pays to produce to the output of consumption goods. The latter relationship, neglected by Mr.

The chief difficulty in a deficit-spending policy is that it may have undesired effects on both the expectations for the future yield of capital investments and on liquidity preference. There can be a profound difference between investment resulting from private initiative and investment created by government action. The effects in the two cases cannot be assumed to be identical. In the case of government spending, the method of investment stimulation employed may itself cause an increase in liquidity preference, in the sense of a greater desire on the part of individuals and business firms to hold cash. Secondly, the inducement to invest may be weakened by reason of a rise in capital equipment costs and because of the development of less optimistic views concerning the prospect for yields. Thus the two important factors influencing the inducement to invest may be unfavorably affected by the attempt to promote recovery through large expenditures. This is likely to be particularly true when the spending program involves a progressive increase in the public debt. The regular recurrence of large budget deficits is unquestionably a source of apprehension, whether rightly or wrongly, to the financial and business community by generating fears of ultimate inflation. Unfortunately a vague fear of ultimate inflation, unlike a conviction of imminent inflation, may have not inflationary but deflationary effects in weakening business confidence and inhibiting commitments, and thus lead to the hoarding of money.[5] Furthermore, the indirect effects on private activity resulting from the price and wage policy imposed on the business community by the government may well prove equally as important as the direct effects of the spending policy in increasing business revenues. On the other hand, the increased business revenues resulting from public expenditures may improve profit conditions and thus consequently raise private investment. Government spending may also be interpreted as an assurance that business will get no worse, so that private expenditures hitherto postponed for fear of further business deterioration are now undertaken. What the outcome actually proves to be between these extremes will depend upon the specific circumstances of the concrete situation.

Keynes, assumes especial significance in a recovery based largely upon an expansion of consumption financed in part by public relief expenditures. All that emerges in the end is the demonstration, on the one hand, that income is dependent upon expenditures both for investment and consumption; and, on the other, that the investment multiplier can be of any magnitude depending upon the given circumstances and subject to given simplifications and assumptions. (I am indebted for the substance of part of this note to a forthcoming article by Dr. Lauchlin Currie on "The Implication of Keynes' *General Theory*.")

[5] If the recovery is believed to be dependent upon continuing deficit spending, and if it is further believed that such expenditures cannot be long continued, businessmen may be led to keep their own expenditures at a minimum. Again, if government expenditures take a form competitive with private enterprise the resulting disinvestment may more than offset government investment—particularly if the threat is present of further action in the same direction.

II. *The Relation between Public Works and Total Public Expenditures*[6]

The emphasis usually placed on variations of public works expenditures in the controversy about the effects of expansionist fiscal policies is somewhat misleading. Despite important differences in the economic effects of capital and noncapital expenditures respectively, the volume of public expenditure as a whole remains the dominant consideration.

Since 1929 the movements of total expenditures have often been quite dissimilar from those of public works. In 1931 public works dropped by over half a billion dollars, while nonconstruction expenditures increased by a billion. In 1932 construction fell by a further billion dollars while other expenditures were up two billions more. In 1933 both items fell and in

TABLE I

ANNUAL VARIATIONS IN PUBLIC WORKS EXPENDITURES AND TOTAL GOVERNMENTAL EXPENDITURES, 1930–36*

(Increase or decrease each year as compared with preceding year)
(In millions of dollars)

Year	Public works	Other expenditures	Total expenditures
1930	+77	+251	+328
1931	−565	+1,007	+442
1932	−1,063	+2,001	+938
1933	−177	−1,008	−1,185
1934	+792	+1,425	+2,217
1935	−40	+544	+504
1936	+1,204	+1,242	+2,446

Source: Computed from figures of Table III, below.
* Both federal and local governments.

1934 both rose, but by very different proportions. In 1935 the construction figure remained unchanged while other expenditures were up half a billion (Table I). Public works expenditures and total government deficit spending likewise show no close correspondence. Nor is there much correspondence revealed between the movements of federal and local expenditures respectively. Examination of the detailed figures broken down by different governmental units often shows markedly divergent movements in the various series, and indicates that public works expenditures tell only part of the story. The decline in the construction expenditures of the localities during the depression, for example, is partly explained by their having had to meet more urgent needs, such as for relief; so that often a redistribution of total expenditures rather than a reduction took place. Indeed, the maintenance of construction at the expense of more urgent needs for local funds would have been quite unjustified. There is no sense in firing teachers for

[6] I wish to acknowledge the generous help of Mr. Henry Villard in the preparation of this section.

lack of funds and rehiring them as relief road-workers on improvised projects. While it is true that the construction industry is in need of special stimulation during depressions, it is also true that construction expenditures may well have smaller secondary effects than other types of government spending, because less goes to labor directly and the stimulating effects of the balance may be long delayed if the replacement of machinery is postponed. It is hard to justify the special maintenance of public construction during depressions at the cost of other socially desirable objectives. Thus there is no logical reason why federal aid to the localities should take the form of construction loans and grants rather than that of general assistance to the municipal bond market, irrespective of the purpose of the issue.[7]

III. *The Empirical Case for Deficit-Spending during the Depression*

I turn now to the empirical case for government deficit spending as a recovery expedient. It rests largely on the seemingly insuperable difficulty of securing an adequate general reduction of costs and prices in depressions, in consequence of the extent to which our economy is permeated today by inflexible elements—real property taxes, freight rates, power rates, trade union wage rates, long-term interest charges, and the like. On the other hand, technological improvements which would permit reduction in unit costs proceed slowly.[8] In addition, the cost-price-reduction line of attack pays insufficient attention to expectations as a determinant of investment.

It follows that in a severe depression recovery cannot be expected without a general increase in demand resulting in a rise of prices or increased sales at existing prices. But increased demand must be dependent largely upon an increase in incomes, which in turn must be largely dependent upon increased investment. In severe depressions, however, the desire to invest is weak; the desire to save strong. Thus increased private expenditures

[7] Before the depression federal aid to local construction was relatively very small. In 1932 and 1933 the heavy borrowing by the localities for nonconstruction purposes sharply reduced their borrowing for construction. Had easier borrowing conditions allowed the localities to borrow more for construction, more current revenue would have been freed for nonconstruction uses. They would also have been able to borrow more for relief and current expenses than they actually did. Thus there was a prima facie case for general federal assistance to the municipal bond market. The latter was clearly in need of such aid, if local expenditures were to be maintained. On the other hand, the federal bond market was strong enough (except for a short-lived break during the banking holiday) to allow the federal government to render the needed aid, especially since, unlike the municipalities, it is in a position to support the value of its securities by central banking and other monetary operations.

[8] The efficacy of unit cost reductions in stimulating expansion is in inverse proportion to the extent of the given decline in prices and output. In America, by 1932, the latter had been so precipitous as to be far in excess of any conceivable cost reductions resulting from technological improvement. Moreover, cost reductions are of no avail in halting depression unless accompanied by a simultaneous expansion of output, since otherwise total business spending, and hence the national income, is merely further reduced, necessitating further lowering of costs, and so on.

wait on increased demand, and increased demand waits on increased expenditures. If so-called natural forces are relied upon to bring about recovery, the vicious spiral may accordingly continue indefinitely, with cumulative deflationary intensity, and the argument for government intervention to break the circle becomes strong. The help that may be expected from unavoidable replacements, the introduction of new cost-reducing machinery in established industries, and the appearance of new products requiring new productive equipment, can hardly be counted upon to counteract the powerful deflationary forces at work.[9] Moreover, even if expectations of enhanced profits are restored, the existence of unutilized productive capacity means that a substantial increase in demand can be met with little need for increased investment in new plant facilities. But even were it to be granted that in the course of time new investment and decreased saving will "naturally" overtake continuing disinvestment and saving, the social cost involved in the continued nonutilization of the community's human and physical resources is too high a price to pay.

Let us apply these observations to the actual situation during the depression. The outstanding feature of the business picture in 1932 and early 1933 was the existence of unutilized capacity and unemployment in virtually all spheres of industry. Compared with 1929, the national income had been cut by over a half. The severe shrinkage in the demand for all goods was reflected in sharply falling prices and increasingly large business losses. Confidence in the outlook for profits had been completely undermined by three years of cumulative deepening depression. Checking accounts in banks had declined by some 8 billion dollars by mid-1933; in addition, over 3 billions of time deposits were in banks that failed to reopen after the banking holiday. The decline in national income was paralleled by the shrinkage in the revenues of governmental units, national and local. Increased taxes could not halt growing deficits, with resultant need for cutting expenditures. State and local governments had spent over 2 billion dollars annually on public works in the period 1925-31, but in 1933 they spent (exclusive of federal grants and loans) only approximately a billion dollars.[10] The electric power industry alone had spent nearly 1 billion dollars on construction in 1929 and 1930; in 1933 it spent only 100 million.[11] The railroads, which had spent over a billion dollars annually up to 1929 on plant and equipment, had also reduced their expenditures drastically. They could not be expected to spend more until their revenues expanded, but expansion of revenues was contingent upon revival of business. Expenditures on resi-

[9] Such as the widespread repugnance to indebtedness, resulting in the use of increased revenues for the reduction of such indebtedness or in their being held in the form of cash to meet future contingencies. This applies equally to individuals and business concerns.

[10] A. D. Gayer, *Public Works in Prosperity and Depression*, Ch. 3; and *Construction Expenditures and Employment*, 1925-36, WPA, Washington, 1937.

[11] But this was partly attributable to special legislation affecting utilities.

dential construction from 1925 to 1928 had exceeded 4 billion dollars annually; in 1935 they amounted to less than 400 million dollars.[12]

The prospects of a "natural" recovery taking place in these circumstances were hardly encouraging. The increased demand that was a prerequisite to recovery could scarcely be expected to come out of previously accumulated balances when over a sixth of the population was being supported by public relief, others were dependent on relatives, and savings generally had been drastically depleted. Thus increased demand was contingent upon increased incomes. Increased incomes were in turn contingent upon increased spending either by private business or by government. But if the increased incomes were to result from business spending, it was necessary for business to invest in increased capital equipment or inventories, since meeting the existing demand for consumer goods was not enough to increase incomes.

But what reasonable prospects existed for increased investment in fixed plant and inventory in light of the existing excess productive capacity? Even making allowance for obsolescence, American industry was geared to supply a demand for goods equaling that experienced in 1929. A very large increase in demand over that prevailing in 1932 had to be anticipated, therefore, before increased facilities would be necessary.

But might not recovery have been justifiably expected to come about in the course of time through the necessity of replacing durable goods, of both producers and consumers, which had worn out since 1929? This expectation implies that replacement was being deliberately postponed. In view of the drastic shrinkage of incomes and the increase in unemployment, it would seem clear that purchases of durable goods were cut down, by both individuals and corporations, from necessity rather than from choice, and that renewed purchases of such goods waited upon an increase in incomes. In the case of business investment, the decrease in the production of durable producers goods was partly a reflection of decreased ability to buy, as, for example, with the railroads, and partly a reflection of the absence of need for such goods to meet current demands. As remarked above, expenditures sufficient to maintain the plant necessary to satisfy the effective demand for goods prevailing in 1932 would not have been sufficient to increase incomes. It would appear, therefore, that "deferred" demands would have remained deferred until a rise in incomes, and, hence, in the effective demand for goods, had made it possible and profitable to install the equipment to meet such demands.[13] The conclusion appears inescapable. The

[12] The explanation of the virtual cessation of building appears to be twofold. Firstly, the shrinkage in individual incomes decreased people's ability to build. Secondly, the shrinkage in incomes resulted in a drastic fall in rents, while building costs did not fall correspondingly. Hence it became cheaper to buy or rent than to build. A fall in costs was in turn dependent upon lower rates of wages in the building trades, lower transportation charges, lower material costs, and lower interest rates. By 1933 little progress had been made in lowering these various elements of costs.

[13] In regard to the possibility of a recovery resulting from America's departure from gold and the resultant exchange depreciation, it is probable that that step was a necessary

prospects of a so-called natural recovery being so slender, a strong case existed for the government to try bringing one about through increased deficit spending.

But what about the charge that the government's spending program inhibited investment by increasing the cost of borrowing for private business? The thesis is hard to sustain. In the four years following the middle of 1933 the volume of checking accounts in all banks, plus the demand deposits of the government in commercial banks, expanded by some 9 billion dollars.[14] The major part of this increase was due to the rise in the holdings of the public debt by the banks. This enlargement in the supply of money, taken in conjunction with a decrease in indebtedness, without question greatly improved business liquidity and was a most powerful factor in forcing down long-term interest rates to a very low level. Thus, instead of driving interest rates up by absorbing the available savings of the community, government borrowing actually had the opposite effect, by greatly augmenting the supply of loanable funds. At the same time that the government was spending billions and carrying unprecedentedly large budget deficits year after year, federal credit steadily improved, the government bond market continued very strong, and a notable succession of funding and conversion operations was effected. Due to the latter, the cost of servicing the present much enlarged debt is not greatly in excess of carrying that of 1933.

IV. *The Magnitude and Effects of the Federal Contribution to Community Income, 1930-37*

There are various reasons why the reported figures of the federal deficit are not satisfactory measures of the contribution of the government to private incomes.[15]

It is apparent that not all government expenditures lead to an increase in buying. Refinancing expenditures, for instance, serve a highly useful purpose in preventing forced liquidation. They do not, however, result in a direct increase in the expenditures of the public. Similarly, when the government spends money that is collected in taxes and would have otherwise been spent by the taxpayer, there is a transfer of buying power rather than a net increase. Briefly, what the figures presented here measure is the net flow of income directly attributable to government activity; that is, all

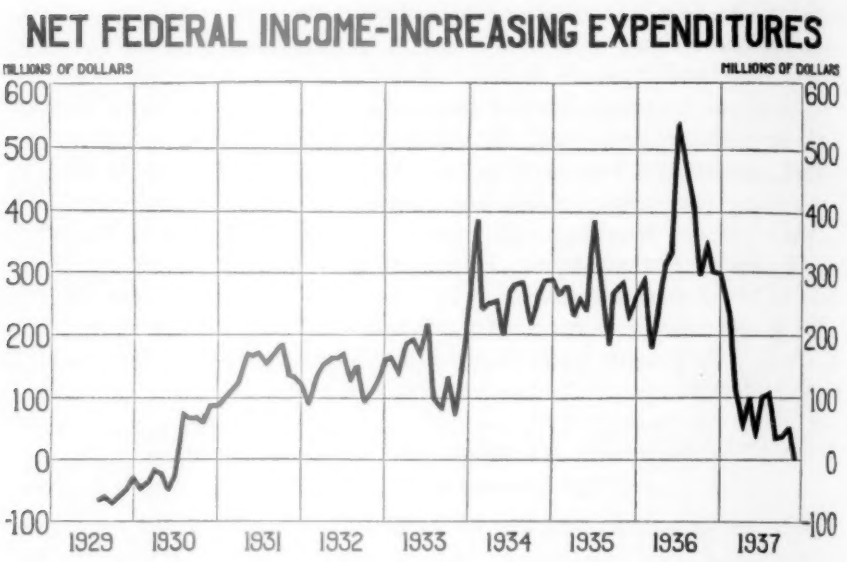
condition for domestic recovery, but it would scarcely seem to have been adequate by itself to initiate recovery. Our exports were not large enough relative to home production to generate an upturn. This consideration is quite apart from the difficulty of long maintaining an externally undervalued dollar. In point of fact imports rose more than exports under devaluation.

[14] The volume of demand deposits plus cash outside banks expanded by some 12 billion dollars, or 60 per cent, during the same period.

[15] These reasons are discussed in detail and the methods used in deriving a more satisfactory measurement are explained in the Appendix to this paper.

income received directly from government agencies and from persons and institutions which are financing their expenditures by borrowing from government agencies, minus all deductions from income paid over to the government as taxes, fees, etc. For the purpose of this definition, income means money receipts derived from the sale of services currently rendered. The term "income increasing" as used here is roughly equivalent to "business-stimulating" and "pump-priming," terms which in popular usage de-

CHART I



note an all-round increase in cash receipts of both business and those who are employed by business.[16]

Federal net income-increasing expenditures increased rapidly after 1929, until the present year. The figures for 1934 and 1935 exceeded 3 billion dollars each calendar year and in 1936 amounted to 4 billions. Monthly averages have run as follows, in millions of dollars: 1932, 137; 1933, 155; 1934, 270; 1935, 263; 1936, 335. For the first half of 1937 the figure

[16] The monthly expenditures of the government and its agencies are checked item by item in order that expenditures that appear likely to result in current purchases may be separated from those that do not result in current buying. Appropriations to the Old Age Reserve Fund, for example, do not increase current buying. One-half of the proceeds of bonus bonds cashed were assumed to result in current purchases. From the gross activity-stimulating expenditures are then deducted all tax receipts except estate taxes and gift taxes. Estate taxes are assumed not to result in a deduction from current expenditures. Doubtless the payment of a portion of income taxes likewise does not result in a contraction of current buying, but little basis exists for estimates of this amount on a monthly basis. It should be kept in mind, however, that by deducting all income taxes this particular series may tend to understate the government's contribution and to overstate the decline from 1936. Income tax payments are smoothed over a three-month period.

TABLE II

FEDERAL NET INCOME-INCREASING EXPENDITURES AND BUDGET DEFICITS, 1930–38
(In millions of dollars)

(1) Fiscal years	(2) Net federal income-increasing expenditures	(3) Budget deficit[a]
1930	−534	−184[b]
1931	1,302	462
1932	1,776	2,735
1933	1,838	2,602
1934	2,392	3,630
1935	3,285	3,002
1936	3,407	2,688[c]
1937	2,757	2,707
1938	250[d]	695[e]
Total, 1931–37, inclusive	16,757	17,826[f]

Source: Col. (2), Table IV, below (Appendix); Col. (3), Treasury Statements.
[a] Exclusive of debt retirement.
[b] Surplus. In this year 554 million dollars of public debt was also retired.
[c] Excludes provision for payment of bonus; including this item, the figure is 4,362 million dollars.
[d] Preliminary estimate, made November, 1937.
[e] President's budget statement, October, 1937.
[f] Including bonus, 19,500 million dollars.

TABLE III

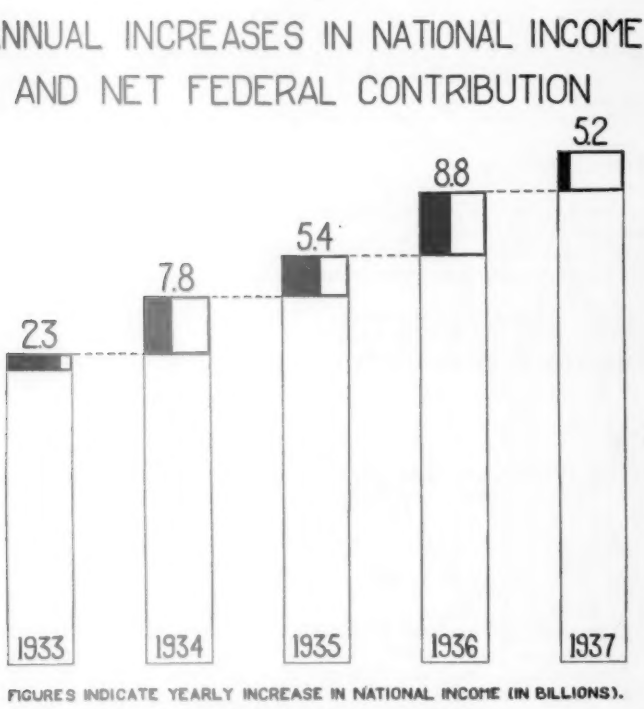
GOVERNMENTAL INCOME-INCREASING EXPENDITURES, PUBLIC WORKS AND TOTAL EXPENDITURES, AND NATIONAL INCOME PRODUCED
(In billions of dollars)

(1) Years	(2) Federal income-increasing expenditures[a]	(3) Local income-increasing expenditures[b]	(4) Total, columns (2) and (3)	(5) Total public works expenditures[c]	(6) Total governmental expenditures[d]	(7) National income produced[e]
1929	—	929	—	3,555	11,709	80,757
1930	251	973	1,224	3,632	12,037	67,969
1931	1,748	635	2,383	3,067	12,479	53,499
1932	1,646	392	2,038	2,004	13,417	39,545
1933	1,856	−298	1,558	1,827	12,232	41,813
1934	3,238	225	3,463	2,619	14,449	49,575
1935	3,154	244	3,398	2,579	14,953[f]	54,955
1936	4,025	—	—	3,783	17,399[f]	63,799
1937	900	—	—	—	17,199[f]	69,000[g]

[a] From Table IV, below (Appendix). Calendar years.
[b] Figures calculated by H. H. Villard.
[c] A. D. Gayer, *Public Works in Prosperity and Depression* and *Monetary Policy and Economic Stabilization*, 2nd edition.
[d] National Industrial Conference Board.
[e] U. S. Department of Commerce.
[f] *Studies in Current Tax Problems*, Twentieth Century Fund.
[g] Preliminary.

drops sharply to 107 and for the second half of the year to 40 (partly estimated). Table II presents the annual figures for fiscal years since 1930, compared with budget deficits,[17] and Table III gives annual figures for calendar years along with other significant series. The monthly figures since July, 1929, will be found in the Appendix (Table IV). The accompanying chart, presenting these figures, shows that the monthly federal contribution

CHART II



FIGURES INDICATE YEARLY INCREASE IN NATIONAL INCOME (IN BILLIONS). SOLID BLACK PORTION DENOTES FEDERAL CONTRIBUTION.

to national income averaged a small minus quantity in 1929 and 1930, nearly 150 million dollars during the three years 1931-33, nearly 300 million in 1934-36, and only 75 million in 1937 (calendar years).

It may seem at first sight that expenditures of this magnitude, amounting only to some 6 per cent of national income on the average for the years 1934-36, inclusive, could hardly have had much significant effect on business

[17] The explanation of the downward trend in the deficit as contrasted with the steadiness of the net activity-stimulating expenditures in Table II is mainly to be found in the heavy repayments of loans by banks to the Reconstruction Finance Corporation, which while decreasing the actual deficit are not considered to decrease current spending.

The argument for excluding the bonus payment is that it represented an obligation of the government incurred in 1924, which would have had to be paid in 1945. Moreover, it was not a part of the recovery and relief program, although undoubtedly a substantial portion of the payment resulted in a net addition to the current expenditures of the public.

activity. Compared with the volume of investment in a prosperous year they appear small. In 1928 total construction expenditures alone probably exceeded 13 billion dollars.[18] Yet income-increasing expenditures of over 3 billion dollars annually could have a profound effect on business activity by converting excess savings into investment. In each of the years 1932 to 1936, inclusive, these expenditures exceeded the total estimated value of new nongovernmental construction.[19] When one takes into account the secondary expenditures involved, the resulting stimulus to business could very well have been of prime importance.

This is seen more clearly when the net income-increasing expenditures are related not to the national income totals themselves but rather, as they should be, to annual changes in the national income. The comparison is as follows, for calendar years (see chart):

	(In billions of dollars)			
	1934	1935	1936	1937
National income produced: increase over preceding year	7.8	5.4	8.8	5.2
Net federal contribution	3.2	3.2	4.0	0.9

No allowance is made in this comparison for the fact that a substantial portion of income tax payments, particularly in the earlier years, would probably not have been currently spent if they had been retained by taxpayers. As to the secondary spending which the original contribution generated, it will be seen that if we can assume an income velocity for money of two per year, which appears to be the figure for recent years, the rise in the national income in the last three or four years could be imputed almost entirely to government spending.[20]

[18] A. D. Gayer, *Public Works in Prosperity and Depression*, Ch. 3.

[19] Figures for the latter are as follows, in millions of dollars (figures in brackets are the corresponding income-increasing expenditures): 1932, 1,411 (1,646); 1935, 1,175 (1,856); 1934, 1,363 (3,238); 1935, 1,982 (3,154); 1936, 3,001 (4,025). (Source: *Construction Expenditures and Employment*, 1925-36, WPA, Washington.)

[20] Passing over the speculative inventory boomlet of 1933, is there any evidence for attributing the subsequent recovery to government deficit spending? The crucial question at issue here is whether the increased business disbursements that took place during the recovery themselves initiated the increase in incomes and the demand for goods, or whether they were rather the result of an increase in demand generated from other sources. The following evidence adduced by Dr. Lauchlin Currie appears significant. We know that business deposits increased sharply between 1933 and the close of 1935. What is the explanation? The increase could not have arisen from borrowing, because business was, in fact, reducing its indebtedness. Nor can more than a small portion of the increase be accounted for by the sale of marketable securities held in corporation treasuries. The same holds true for the repatriation of American business capital held abroad. Finally, business probably advanced more capital to consumers than it collected in debts from consumers. The conclusion is clear. Business must have received more from the community in the sale of its products than it paid out in wages, dividends, and other payments to the factors of production. The only possible important source of this new income there could have been was the net income-increasing expenditures of the government. If, thus, increased business disbursements did not initiate the increase in demand but were the result of it, the initiating force behind the recovery must have been government deficit spending. "If business had paid out more than it received in the sale of goods it would have expended money on additions to plant and equipment, making up the difference by drawing down its balances, by borrowing, or by new stock issues." (Lauchlin Currie, "The Stabilization of Purchasing Power Through the Use of Public Credit," paper read before the American Economic Association on December 30, 1936.)

The drastic decline in the monthly contribution this year from the levels prevailing during the preceding three years probably did not in itself bring about the business recession, since there continued to be a net contribution, small though it was. But it appears clear that private income-increasing expenditures did not expand in 1937 at a rate sufficient to offset the decline in the federal contribution. Thus the rate of recovery slackened and resulted in a positive reaction.[21]

V. *Consumption and Investment in the Recovery*[22]

I turn now to consider a peculiar and highly significant feature of the recovery movement since 1933 which differentiates it from the traditional pattern of recoveries in the past. The revival was peculiar in being one based mainly on a rise in consumption, with investment following the lead of consumption instead of itself leading the way.

Passing over the evanescent speculative inventory boom in the latter part of 1933, which was over before the spending program had really got under way, the two factors of primary importance in explaining the upswing seem to have been the expansion in the demand for durable consumers goods, conspicuously automobiles, and federal deficit spending. This expansion in the demand for consumer goods, both durable and non-durable, necessitated renewals, replacements, and some new capital investment. The resulting expansion of employment and income in turn reinforced the initial increase in consumption, and in 1935 some further investment, this time in residential construction, was evoked. Yet despite this normal cumulative interaction of consumption and investment, the significant fact remains that consumption led and investment followed, and, moreover, because of this sequence, followed haltingly and in limited volume. The new investment was largely based on narrow calculations respecting the immediate requirements of current consumption.

This condition has been in marked contrast to past recoveries, which, broadly speaking, were generated by an increase in capital expenditure that had no close relation to the level of current consumption. These were based rather on long-term expectations and took the form of waves of new revolutionary developments—the booms resting on railway construction, electricity, the automobile—that led the way out of the depression. Now while it is true that these booms, in which investment led, eventually ended in collapse, the trouble with a recovery based on consumption, on the other

[21] As to the first half of 1938, there may be a decrement instead of a net federal contribution to the income stream, attributable mainly to increased tax receipts. At the time of the recession in 1934 the federal contribution continued to run well above 250 million dollars a month.

[22] This section draws heavily, to the point of summarizing his argument, upon Professor Alvin Hansen's admirable paper on "The Consequences of Reducing Expenditures," before the Academy of Political Science in New York on November 10, 1937. For Professor Hansen's full argument see his printed paper in the *Proceedings* of that meeting.

hand, is that it can go forward only as long as the consumption stimulus is continued, unless in the meantime investment has been resumed on a wide scale. If the new investment fails to materialize in adequate volume, the cessation of consumption-stimulating expenditures is likely, moreover, to produce not merely a leveling out of business activity, but a positive recession, for the following reason. In past recoveries, when investment preceded consumption, the rate of investment was largely independent of the rate of consumption. But it becomes a very different matter when new investment is closely geared to current consumption. As long as consumption continues to rise, some new capital equipment will be needed. But as soon as consumption levels out, new investment declines and there only remains a replacement demand for new capital. The decline in total capital formation results in a further decline in consumption, and a depression becomes a very real danger.

The question may be raised at this point why the resumption of new investment in adequate volume should be more unlikely to take place during the course of an upswing, even if brought about by increased consumer spending, than it would be in the absence of recovery. Surely conditions during recovery, however produced, should be more conducive to undertaking new investment than are depression conditions? Furthermore, granting that a rising tide of consumption need have only limited effects in evoking increased investment while widespread excess capacity still exists, should not extensive new investment be induced once existing capacity is being relatively fully utilized? The answer to this crucial question—whether there is any unique relation between a recovery based on rising consumption and the failure of private investment—is an extraordinarily difficult one. In my opinion that answer cannot be deduced from the nature and circumstances of the consumption-stimulating program as such alone, but rather is contingent also on a variety of independent factors. It may quite well happen that a recovery based on rising consumption will eventually induce an investment boom along traditional lines if these independent factors are favorable. In that case recovery should then proceed on its own momentum, based on business spending. But there is no assurance that the investment boom will necessarily materialize out of a consumption-stimulated recovery. And if it fails to do so, then recession is likely to ensue once the consumption stimulus is withdrawn.[23] I shall presently touch upon the independent variables in the business situation in recent years that in my opinion have explained the failure of investment to revive in adequate measure.

[23] Failing the resumption of investment on an adequate scale, rising consumption can be expected to necessitate renewals and some increased plant and equipment needed to satisfy growing demand. But with a flattening out of consumption the need for new investment ceases. The current level of consumption demand can then be met with the existing equipment. Replacement only will be required and even that may be deferred if existing equipment is relatively new. The decline of investment may be expected in turn to result in a decline in consumption. Thus, once it ceases to expand, consumption does not remain stationary but actually begins, instead, to decline.

Following the tapering off of the automobile boom came a sharp reversal of government fiscal policy in the shape of a virtually complete cessation, as we have seen, of deficit spending. The stimulus to consumption was suddenly withdrawn. The impression is widespread that the federal government is still spending lavishly, because the budget nominally continues out of balance. But in substance, economically speaking, the budget actually is already balanced. Allowing for social security collections, the present fiscal year will show, according to the President's revised October estimates, a surplus of 400 millions, in contrast to real deficits of over 3 billion dollars in recent preceding years. The federal government, as shown above, is today taking as much out of the national income stream as it is putting into it.

If, in light of these circumstances, we are to avoid a serious recession, two alternative courses seem to be open. Either private investment must be encouraged to push forward independently of the requirements of current consumption, or else consumption must be further stimulated. Since installment selling appears to have reached its maximum, it would seem that the further stimulation of consumption is dependent upon government action. In view of the undesirability of further unbalancing the budget—indeed the desirability of balancing it, nominally as well as actually, as soon as possible—some change in the present social security setup would appear to be advisable. The change could be effected quickly and without disturbing the balancing of the fiscal budget if the old age reserve account were placed on a pay-as-you-go basis. This would remove the deflationary pressure currently exerted by impounding the old age pensions taxes in a special reserve. But if we must have a so-called reserve fund we should at least use it currently for expenditure on some socially useful objective, such as workers' housing. At the same time encouragement could be given private enterprise to resume investment by modifying—not repealing—certain pieces of legislation which business claims to be particularly onerous and inhibitive of expansion, such as the undistributed profits tax, the capital gains tax, the utilities holding companies act, and so forth.

I turn now to consider the independent factors unconnected with government spending that may account for the low level of investment in recent years. One widely reiterated explanation has run in terms of New Deal legislation touching the capital market, and allegedly restrictive of new investment. Stress is also laid on difficulties arising out of the magnitude and duration of the deficit financing and the loading of the banking system with such large holdings of government debt.

Even granting that there is some force in this line of reasoning, it seems to me to have been decidedly overworked as an explanation of the recent recession. It fails to touch fundamentals. After all, these controls were not imposed yesterday; despite their existence, considerable recovery did

take place. More important seems to me to be a rather different, though allied, factor—the atmosphere of hostility and mistrust between the government and business which has prevailed since 1933, and the resultant lack of faith in the long-term future on the part of business.[24] The basic factor in the situation has been, not so much the question of the functioning of the mere technical mechanism of the capital market, but rather the anticipations of the future yield of investments, which rest upon deeper seated forces.

A third factor explaining the failure of new investment to revive adequately during the recovery has been the tendency to push costs up higher than the level of income justified. The cause lay partly in governmental policies beginning with the NRA,[25] partly in corporate price policies, partly in labor policies. In the construction industry the cost of building materials, of labor, and of borrowing all alike stand at such notoriously uneconomical high levels that the new houses so badly needed are simply not being built in any adequate volume.[26] Public utilities hesitate to risk developmental rates designed to tap potential demand. Business price-fixing and monopolistic practices have limited output and employment. New investment in the railroads has been restricted by both high labor costs and the failure to effect thoroughgoing rationalization. In producers goods industries increasing costs have combined with corporate price policies to retard expansion. Those who find the source of all the trouble in government spending and unbalanced budgets as such spend too much time in barking up the wrong tree. Without attempting to allocate responsibility for the present state of affairs between government, business, and labor, it may, I think, be argued that government pump-priming expenditures accompanied by a planned policy of cost and price reductions might have been expected

[24] The absence of this mutual hostility and distrust has, in my opinion, been one of the factors that explain why British business has accepted probably heavier burdens from its government without impairment of the performance of its function of creating employment by making new investment—though I would not of course attribute exclusive significance to this one circumstance.

[25] Under the wage-raising provisions of the NRA, building wage rates, which in any event had not fallen during the depression in proportion to prices, or to wages in general, and whose reduction was a prerequisite to the resumption of private building activity, were actually increased. At the nadir of the depression a wage scale was set which exceeded the rates that had prevailed during the boom in many communities. This was not an inevitable concomitant of the public works program. Rather was it a fortuitous consequence of the avowed policy of attempting to promote recovery by raising wages all along the line in order to "increase purchasing power." Conceivably the government could have pursued the opposite course of stipulating that any expanded construction outlays would be conditional upon a reduction of building wage rates and the prices of building materials. Such a course would have facilitated the scaling down of those prices whose reduction is most necessary to stimulate business spending in a depression, and would have helped to remove maladjustments in the cost-price structure, instead of reinforcing them.

[26] Interest rates on loans for residential construction are, for example, completely out of line with the low rates on long-term government bonds. The various parts of the interest rate structure are not closely interrelated. Despite the easy money conditions prevailing in general during recent years, interest rates at certain crucial points for new investment have remained at uneconomic levels.

to have had very different results in encouraging the resumption of new investment, in addition to stimulating consumption. As things are, the withdrawal of the consumption stimulus finds the country lacking an adequate tide of investment to carry forward the recovery process on its own momentum.

There remains one final factor to be touched upon. Though it is shrouded in deep obscurity and carries us into highly speculative regions, it may quite well be of considerable importance in explaining the failure of investment to revive satisfactorily. I refer to the possibility that an increasing secular difficulty may be confronting business today in finding promising channels for investment on an adequate scale. We are not justified in assuming without question that profitable new investment outlets will always automatically present themselves in abundance, and in counting upon the appearance on the scene of something similar in its effects to power-driven machinery, the railroad, electrical development, or the automobile. Past history has shown periods of secular stagnation, as towards the close of the last century, alternating with bursts of investment activity. The problem of long waves, or, in one aspect, of secular stagnation, may be equally as important as that of cyclical fluctuation. I shall not hazard predicting the future.[27] But certain general considerations are disquieting. First, the familiar fact of the rapidly approaching cessation of population growth is of quite cardinal importance. Second, as the curve of industrialization rises, it is also in danger of flattening out, in the sense that any given new industrial development, in order to have the same relative effect upon the economy in its totality, has to be of progressively greater absolute magnitude. Finally, as the curve of national and per capita income rises, a progressively larger proportion of income is spent on nonessentials. I lack space to enlarge upon the implications of these considerations. I shall merely conclude by suggesting that, if indeed a period of secular investment stagnation is confronting us, due to an excess of savings and a lack of corresponding investment opportunities, the problem of appropriate government fiscal policy is bound in the future to be enormously more complex and difficult than it has been hitherto. For the government may then be called upon, not merely to use fiscal and monetary policy as a cyclically compensatory device, but also, at the same time, as an instrument for opening up investment outlets for the flow of surplus savings. A secular problem would be superimposed upon the cyclical problem, and the rôle of fiscal policy in the whole saving-investment equation, in promoting steady economic growth, would be profoundly altered and assume a new significance.

The method here used for calculating the income-increasing expenditure

[27] But see, on the probable future relations of capital supply and demand, the interesting estimates of Professors Colm and Lehmann in their study of "Economic Consequences of Recent American Tax Policy," *Social Research*, Sup. I, 1938.

of the federal government is based on an unpublished study by Lauchlin Currie and Martin Krost. The figures from January, 1932, are also theirs. The earlier figures, however (through December, 1931), were computed independently by Henry Villard by substantially the same methods, subject to certain minor refinements. The Currie-Krost method was in turn based partly upon a previous unpublished study of Albert G. Hart, which had the benefit of Professor Viner's comments. I am indebted to Dr. Currie for the following description of method.

APPENDIX

The Measurement of Federal Net Income-increasing Expenditures

TABLE IV

NET FEDERAL GOVERNMENT INCOME-INCREASING EXPENDITURES, 1929–37[a]
(In millions of dollars)

	1929	1930	1931	1932	1933	1934	1935	1936	1937
January	—	−49	101	88	164	384	264	291	237
February	—	−39	113	133	139	244	280	184	107
March	—	−16	128	155	187	253	232	244	50
April	—	−21	170	165	195	255	256	314[b]	99
May	—	−50	169	166	172	200	240	332	46
June	—	−24	171	173	215	272	383	543	101
Fiscal year	—	−534	1,302	1,776	1,838	2,392	3,285	3,407	2,757
July	−67	75	154	126	97	283	272	469	114
August	−61	69	168	148	82	286	183	407	35
September	−70	69	185	90	134	217	268	296	36
October	−60	61	135	109	73	268	284	346	53
November	−49	88	132	131	140	286	229	300	0[c]
December	−28	88	122	162	258	290	263	299	—
Calendar year	—	251	1,748	1,646	1,856	3,238	3,154	4,025	900[c]

[a] Figures through December, 1931, calculated by H. H. Villard; from January, 1932, by L. Currie and M. Krost; in both cases hitherto unpublished.

[b] Half the cash bonus payments made in 1936 are distributed over the month of payment, the two months preceding, and the three months following.

[c] Preliminary.

The term "income-increasing," as used here in reference to any given transaction, means that the money changing hands is either itself a payment for current output, or that the nature of the transaction implies that the money will be used as payment for current output in the near future. The distinction between income-increasing and non-income-increasing expenditures does not correspond to the distinction between transactions "on capital account" and "on income account" either from the point of view of the government or of the person receiving the payment. Similarly, to say that a transaction is income decreasing means that the volume of spending on current output is less than it would have been had the transaction not taken place.

The effects of a given transaction can be traced with certainty only a very few subsequent steps in the flow of payments in the best of circumstances. In certain cases the immediate results are predictable because of the economic position of the person to whom payment is being made. In general, for example, there is little doubt as to what is done with relief payments. In other cases the nature of the transaction is sufficient indication of the use to which the funds will be put. For instance, loans to business by the RFC are likely to be used almost as soon as made, both because of the interest factor and because of the purposes for which they are extended. But not all transactions can be as easily classified as these and doubtful cases necessitate the exercise of more or less arbitrary judgment. The general rule followed throughout was to assume that no increase in income occurred unless there was convincing evidence to the contrary.

The sources used are as follows: the *Treasury Daily Statement* of the fifteenth of each month for the detailed statements of receipts and expenditures during the preceding months of the current fiscal year; the *Federal Reserve Bulletin* for the outstanding loans of the Reconstruction Finance Corporation and the constituent agencies of the Farm Credit Administration; monthly Treasury figures on collections of internal revenue and the computed annual interest charge on the public debt; and lastly certain information not of great quantitative significance which is not available in any of these publications and must be obtained by special arrangement with the agencies concerned.

It is clear that most receipts fall into the income-decreasing category. The exceptions are proceeds of borrowing, estate taxes, proceeds of foreign obligations held by the government, seigniorage, increment resulting from reduction in the weight of the gold dollar, and part of the Panama Canal tolls.

Government borrowing is the most important example of a considerable number of items which shift from one category to another according to the prevailing phase of the business cycle. Over almost the whole period covered by this paper we can assume that the desire to invest was weak, and attractive investment opportunities were scarce; so that the funds invested in new government securities were either newly created deposits (the creation of which did not deprive the banks of the ability to make other loans and investments) or idle balances (which would otherwise not have been spent at all). Neither of these sources of funds is available to any great extent in periods of normal or active business. At such times funds invested in government securities are probably diverted from other uses. Hence, in prosperity and perhaps in mild recessions government borrowing is income decreasing in its effects, while in depression and the early stages of revival it does not decrease incomes.

Confusion will be avoided if it is noted that statements regarding the

effects of government expenditure do not refer to the complete chain of events which begins with the transfer of a given sum by investors to the government and ends with the transfer of an equal sum by the government to those from whom it buys goods and services. The discussion at this point relates only to the effects of the first link in that chain.

The effects of the collection of the estate tax vary in the same manner between different phases of the business cycle. In depression most estates probably hold enough cash and liquid assets to pay the tax without reducing the volume of spending which would have been done had no tax been paid. It is only in prosperity that the funds which are held by the estate (or by the buyer of the assets which it must dispose of to obtain cash for tax purposes) can be assumed to be fully employed. This treatment of estate taxes may raise the question as to why income taxes (especially in the higher brackets) are not similarly treated. Any guess about how the payers of income tax would behave if relieved of their tax obligations is extremely hazardous, but despite the strong popular feeling to the contrary it would require stronger evidence than is available to lend plausibility to the suggestion that they would simply let the money lie idle. There is the additional practical difficulty that no figures on the size-distribution of the incomes on which taxes are paid are available for periods shorter than a year. Any tendency on the part of high income taxation not to decrease incomes is compensated for in direction if not in amount by some tendency on the part of estate taxes to decrease incomes.

The other non-income-decreasing receipts (proceeds of foreign obligations held by the government, seigniorage, and the increment resulting from the reduction in the weight of the gold dollar) offer no problem. A certain amount of smoothing has been necessary, due to the fact that income taxes and certain other government receipts are payable annually or quarterly while their effects on expenditure are spread comparatively evenly over the year.

Turning to expenditures, we find that almost all items under the first main heading of "General Expenditures" in the *Daily Treasury Statement*[28] are income increasing. Again, however, certain smoothing operations have been necessary, as the total annual appropriation is transferred to various government funds on the first day of the fiscal year, although expenditure is fairly even over the year. Acquisition of assets by various government funds will receive separate consideration below. Payments of interest have been considered as income increasing, while debt retirements have been classified as non-income increasing. The proceeds of such retirements are not likely to have been invested in productive enterprises on any large scale during the period under consideration. Interest disbursements have also

[28] The classifications of the *Daily Treasury Statement* vary from year to year. The one referred to in the text is for July 15, 1936.

been smoothed, as most holders of government bonds do their accounting on an accrual basis and adjust their expenditures accordingly. Refunds of taxation have been considered income increasing. Finally, the postal deficiency has been made to apply as near as possible to the month in which the excess of expenditure over receipts actually took place.

Under the heading of "Recovery and Relief" in the *Daily Treasury Statement*, the activities of the Agricultural Adjustment Administration and the Commodity Credit Corporation have been treated as income increasing. The Farm Credit Administration presents some difficult problems, the activities of the agencies under its supervision falling partly into one category, partly the other.

Relief expenditures under the Federal Emergency Relief Administration, the Federal Surplus Relief Corporation, the Civil Works Administration, the Civilian Conservation Corps, and the Department of Agriculture raise no important question of principle. The same is true of items under the heading, "Public Works," where both grants, loans, and administrative expenses of the Public Works Administration, the Bureau of Public Roads, expenditures on Boulder Canyon, Rivers and Harbors, the Works Progress Administration, the Rural Electrification Administration, and a large number of minor items appear.[29]

Under "Aid to Home Owners," purchases of Home Loan Bank stock and preferred stock of federal saving and loan associations, together with most loans of the Home Owners Loan Corporation, were found not to be income increasing. However, a portion of such loans went for payment of taxes and necessary repairs, and this portion was included as income increasing. Certain other minor housing activities were also income increasing.

The major item which remains to be considered is the Reconstruction Finance Corporation. In general, loans to financial institutions, except the Agricultural Credit Corporation, loans to railroads, and loans on the assets of closed banks must all be excluded from the income-increasing category. Loans and allocations to other branches of the government are counted as part of the expenditure of the branch concerned. The other main types of loans have been classed as income increasing, together with a number of other minor items, such as the Tennessee Valley Authority, which are listed under the heading of "Miscellaneous" in the *Daily Treasury Statement*.

The trust funds administered by the Treasury are properly speaking not the property of the United States government; nevertheless, the expenditures from most of these funds are controlled by policies laid down by

[29] Exception might perhaps be taken to the inclusion of Public Works Administration loans to railroads as income increasing, but the major portion of such loans seems to have been spent for actual construction. Further, we have excluded Reconstruction Finance Corporation loans to railroads from the income-increasing class, although some part of them went for construction; so that the two items may roughly balance.

the legislative or executive branches of the government, and some of them have been built up very largely out of appropriations by Congress. Part of the income of these funds is interest on their investments (almost exclusively government securities) and the remainder consists in the main of deductions from salaries of government employees (or some other form of trusteed receipt). As both salaries and interest have been included in income-increasing expenditure, it would at first seem as if the funds would be neutral if their expenditures and receipts were equal, as they would then merely restore to private incomes what had been taken from them in the form of receipts. But part of the expenditure of these funds, as reported in the *Daily Treasury Statement,* goes toward the purchase of additional securities and so must be treated as similar to debt retirement. Moreover, the two largest of these funds, the adjusted Service Certificate Fund and the Government Life Insurance Fund, were given the power in fiscal 1931 to make loans on Service Certificates, in addition to the previous policy loans made by the latter fund. If we can assume that no one borrows against his life insurance or his Service Certificate without desiring to spend the proceeds, it follows that these loans must be treated as income increasing. Yet because from the point of view of the funds this simply amounts to a change in the assets held, neither the proceeds of the sale of investments (government securities) nor the payments made as a result of the loans are shown in the *Daily Treasury Statement.* It has been necessary, therefore, to find out what the changes were in the holdings of government securities and of policy loans by the more important trust funds during the period under discussion, and to subtract increased holdings of government securities and to add increased amounts of policy loans to our previous totals of income-increasing expenditures.

No allowance has been made for the Stabilization Fund, because no statistics are available on its activities. The only other item of interest is the government's payments to the Federal Reserve banks for industrial loans, which were charged against the gold profit. These have been included as income increasing.

From the discussion above it should be clear that any coincidence of the income-increasing deficit and the reported deficit is purely accidental. It may be convenient to summarize the reasons why this is so. For any period the totals are likely to differ because of the exclusion from the above computations of certain receipts and expenditures which affect the *Treasury Statement.* In any given month they may differ because of the adjustments of income tax collections and interest payments mentioned above, although totals of these items for fiscal years must agree with the Treasury figures. They may also differ because of the fact that the above figures for the activities of some agencies which have independent accounting systems are taken directly from the accounts of those agencies; that is, the attempt

has been made to take into consideration transactions between government agencies and the outside public rather than between government agencies and the Treasury. It is the "income-increasing deficit" and not the reported deficit which measures the direct impact of federal fiscal policy upon the economic situation.[30]

[30] It follows that there is no necessary conflict between people who want the budget balanced simply because they feel that it is a good thing for the government to adjust its expenditures to its income and people who want the government to prime the pump of business activity. By selecting income-increasing types of expenditure and non-income-decreasing methods of raising revenue it is conceivable that a balanced budget could be maintained and at the same time a considerable stimulus given to business.

CONSUMPTION MARKETS

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The problem of this paper is how far and in what ways consumption markets affect the volume of investment activity.

Until within a few years, many academic economists have refused to recognize this problem as important. It has been treated in many standard works simply as a special case of another problem; namely, why the system produces the particular kinds and quantities of consumption goods it does. Orthodox doctrine has held that "investment goods" (that is, new machines, houses, and the like) are simply kinds of goods which consumers pay for out of the part of their budgets labeled "savings," just as they pay for shoes out of the part labeled "clothing." In this view, a shift in consumers' budgets between "savings" and other items must work just like a shift, say, between "food" and "clothing": it must tend to stimulate the output of the one sort of goods and check that of the other. The saving of an increased proportion of income should thus create markets for investment goods at the expense of markets for consumption goods. It should increase the production of buildings, equipment, and goods for inventory, at the expense of the current flow of hats, motion picture shows, and so forth; while a decrease in the proportion saved should work the other way. True, observation teaches that both kinds of output tend to move roughly parallel in business fluctuations. But economics is so overburdened with riches in the way of explanations for the ups and downs of business that there is no serious difficulty in explaining this parallel movement on other grounds.

An opposition view, however, has lately been gaining ground among the economists. Its proponents seize upon the parallelism between the output of investment goods and that of consumption goods as the central fact of business fluctuations. They urge that increased saving may hinder rather than stimulate the production of investment goods, since it will weaken consumption markets and thus destroy investment opportunities. This doctrine, it should be said, has a history at least as long as that of the "orthodox" theory just outlined; but for most of its life it has lived in what Mr. Keynes maliciously terms the "underworld of economics," and it is suspected by many economists on that account. This sort of suspicion is somewhat unfair. The "underworld"—the world of cranks, politicians, and financial journalists—has often made invaluable contributions to economics. Economists who plume themselves on their orthodoxy should not forget that both the physiocrats and the hedonistic school could fairly be called cranks, that Adam Smith himself was a bit of a politician, and that Ricardo was a pamphleteer—not to seek examples too embarrassingly near the present. But

theories from the "underworld" are not always completely housebroken upon arrival. This particular doctrine (that which Mr. Keynes calls the doctrine of "effective demand," and Foster and Catchings, the doctrine of the "paradox of saving") shows its origins in a crankish oversimplification, onesidedness, and intolerance of other perfectly compatible hypotheses—and, it should be added, in the bad manners to which it seems to lead in controversy.

Whatever may happen in the end to some of the wider inferences drawn by its advocates, the doctrine of "effective demand" has at its root a very solid truth which academic economists too often have underrated—that the market for every sort of investment goods is derived from some part of the consumption market. Out of the consequences of this truth I propose to build this paper. But it must be remembered (what the advocates of such mechanical theories as that of the "investment multiplier" too easily forget) that the justification for investment is not the consumption market as currently observed, but future markets as anticipated. Explicit reference to this element of anticipations, though it makes some parts of the argument rather painfully obvious, is to my mind absolutely essential for analysis of the influence of consumption upon investment.

The argument of this paper will be divided into three sections, each representing a separate stage of reasoning: The first section will deal with the effect of the individual firm's selling-market experience on its investment activities. The second will take up the forces which tend to make the selling-market experience of businessmen in general stimulating or discouraging to investment. This involves incidentally an analysis of the effects of consumers' decisions to spend rather than to save, or to hoard rather than to invest on the terms offered by firms seeking capital. The third will consider the combinations in which the governing forces are likely to act, and will draw some implications for economic policy.

I. *Current Selling-Market Experience and Investment within the Individual Firm*

For most analytical purposes, economists find it handy to say that what a firm does (including both its offers to buy and sell and its actual productive operations) is determined by its pursuit of profit in a setting of "economic data." These data take in the outfit and personnel on hand, knowledge of productive methods, prices, and interest rates. For our particular purpose here, however, this formulation needs to be made more precise on the side of anticipations.

The behavior of the firm, in so far as it can be explained along orthodox economic lines, in terms of profit seeking, must be connected with current experience by a chain of reasoning containing several distinct links. Actual operations and dealings are governed by plans of the management. Plans,

in turn, are governed partly by things on hand (in particular, by the amount of plant and goods in process, by existing contracts, and by the personnel and organization now available) and partly by anticipatory estimates. These estimates deal partly with technology (no part of my problem here) and partly with future market conditions. Behind the estimates, finally, lie the entrepreneur's observations, of which the firm's own market experience forms a part. It follows that the price the firm gets for its current sales and the rate at which it is selling goods at that price affect its current operations only through their influence on forecasts of market conditions for later dates.

Once we recognize out and out that current selling-market experience acts through its influence on forecasts, it is plain that we must tread softly in working out its effects on operations. For there is nothing in our economic doctrines of "profit motivation" to explain just how experience acts upon estimates. Facts are needed before we can do much with this question; and few relevant facts seem to have been collected.[1] But even the limited knowledge available does entitle us to set up a few provisional hypotheses, which I shall proceed to outline.

To begin with, we may assume that the effect of present sales volume and prices upon forecasts for later dates is to induce revision of provisional estimates already made. Changes in these provisional estimates must depend not so much upon whether current prices and physical sales volume are high or low as upon whether they are above or below previous estimates for the current period. If the entrepreneur finds things going about as he had expected they would (whether he had expected conditions better or worse than in the interval just before), his estimates for later periods will plainly not be much disturbed. But if he is surprised—that is, if he finds demand for his products in the current period greater or less than he expected—this may break down the foundations of his estimates for later dates and require revision.

Ordinarily, we may suppose, an agreeable surprise on the selling market (price, sales volume, or both being above expectations) will tend to make the entrepreneur more optimistic about later intervals. If so, his estimates of prices (or of sales volume, or of both) for later dates will be revised upward. Similarly, an unpleasant surprise may be expected to lower estimates for the future. But this presumption holds only if the entrepreneur decides his estimates for the current interval were wrong because of some persistent factor in the situation which he has previously undervalued. If the reason he gives himself for the failure of experience to follow estimates is some force which has already worked itself out, the effect may

[1] The only serious work on the subject of which I have heard is a promising study of business forecasting and planning practices now being launched by Mr. Rollin F. Bennett, one of the predoctoral Social Science Research Fellows.

be very different. To illustrate, our entrepreneur may be the owner of a motion picture house whose attendance last week fell below estimates. If the apparent reason was a decline of pay rolls in the city, or unexpectedly strong competition from a new theater recently opened, attendance estimates for future weeks will be revised downward. If the apparent reason was a circus in town (now gone until next year), further attendance estimates may stand unchanged. If the apparent reason was an abnormally rainy week, keeping patrons at home, estimates for next week may be revised upward; for there will be more people in town who have not recently been to the movies. We may conclude that agreeable surprises will ordinarily but not inevitably lead to optimistic revision of estimates and unpleasant surprises ordinarily but not inevitably to pessimistic revision.

Surprises on the selling market, besides affecting the entrepreneur's expectations as to the future course of events, are likely also to make him have more or less confidence in his estimates. If current experience is very different from what was expected, the accuracy of further forecasts is thrown into doubt.[2] On the other hand, a peaceful interval during which estimates turn out unusually accurate will encourage the entrepreneur to feel more confidence in his forecasting ability.

Turning to the effect of revision of estimates upon operations, it must first be noted that only investment operations (operations, for instance, affecting the scale of the firm's plant and its volume of goods in process and in storage) can be much affected. Plans for output of the near future are already quite rigidly determined by the "things on hand" already mentioned. Contracts made in the past, orders on file, equipment on hand, goods in process, and staff available make up a complex of factors which leave the entrepreneur little or no freedom as to how much he should produce in the next few weeks or months, or even as to what goods and services he should buy for the purpose. Most of the costs relating to near future output being already "sunk," only a catastrophe can keep him from incurring the small extra costs needed for its completion. In short, much of what is chronologically "near future" is economically already past. But decisions bearing upon more remote output (decisions, for instance, to enlarge buildings, put in new equipment, or start a new line of research work) are much more free, being less a matter of cashing in on things on hand. Paradoxical as it may sound, current experience (through forecasting) influences operations more strongly as the output they point toward is more remote in time.

We are on safe theoretical ground in laying down the presumption

[2] It may be suspected that confidence will commonly be less shaken when experience has bettered expectations than when it has fallen behind; but this would be very hard to prove.

that if the firm's estimates of future markets become more optimistic the firm will increase its investment activity—or at least will not cut it down. Ordinarily, optimistic revision of estimates will make it seem worth while to plan larger installations of equipment and a larger inventory; and pessimistic revision will work the other way. But firms in some circumstances are insensitive to changes in estimates, having no investment decisions near the margin of doubt. A firm which has many idle machines in good condition, for instance, cannot afford to install more of the same type unless it expects either a very rapid rise in its own output or else a very rapid rise in the price of the equipment (enough to overcome physical deterioration, obsolescence, and interest charges on idle equipment). Similarly, even though all equipment is in use, installation of more may be hopelessly unprofitable if expected selling prices for the firm's output are too low.

Investment activity may also be affected if the entrepreneur's confidence in his estimates rises or falls. Broadly speaking, the degree to which he can profitably commit himself by buying specialized equipment and training specialized workers will depend on the certainty of his forecasts. The more uncertain he is, the more he must avoid laying out money on things he cannot be sure he will find opportunity to use as planned—the more he must preserve flexibility at the expense of specialization. This means that increased uncertainty will lead him to pile up cash balances and possibly inventories, but to avoid debt commitments and to steer clear of possibly useless purchases of durable equipment. Increased certainty, naturally, will work in the opposite direction.

Summing up the factors affecting the influence of the firm's current selling-market experience on its investment operations we find that they are five in number: (1) Current experience works indirectly, through its effect on estimates for the future. (2) What is important is chiefly the influence of surprises as to markets in causing revision of provisional estimates for later dates. (3) Surprises will also affect the entrepreneur's confidence in his power to forecast accurately. (4) Ordinarily (but not invariably) agreeable surprises will lead to optimistic revision of estimates and disagreeable surprises to pessimistic revision. (5) Investment activity will ordinarily be stimulated by optimistic revisions or increased confidence in forecasts and checked by pessimistic revisions or by growing uncertainty; but firms operating at a very low rate (or at very unprofitable price) may be insensitive to such changes in anticipations.

II. *General Influences on the Consumption Market*

Monetary analysis of the consumption market is one of those annoying things in economics which go round and round; and the only way to get a clear view of it as it revolves is to use symbolic methods, of the general

type developed by D. H. Robertson, Dr. Tinnbergen, and the Swedish economists. For the problem of this paper, moreover, it is essential to adopt the Swedish device of treating prices, sales volumes, etc., both as anticipated and as experienced. The results of such a symbolic analysis[8] may be summed up as follows:

1. Total receipts of business from sales to consumers in any interval (such as a week or month) will ordinarily approximate the total receipts expected at the beginning of the interval, since payments leading to consumer income are budgeted on the basis of expected receipts.

1a. (Corollary) If receipts are on the whole expected to be greater or less than in the previous interval, they will actually be greater or less—though the change may be greater or less than was expected.

2. Receipts of business from sales to consumers will total less than expected if businessmen, during the interval, pay out less to consumers than was planned originally, thus curtailing each other's markets; in the contrary case receipts will outrun expectations.

3. Receipts will total less than expected if businessmen's plans for inter-firm dealings do not match, so that firms selling to other firms expect to take in less dollars from those sales than the other firms plan to disburse.

4. Receipts will total less than expected if the total of cash and bank deposits in existence shrinks, if government bodies increase their cash balances, or if businessmen plan to increase theirs (at a time when more money is not being made available by credit expansion or otherwise).

5. Receipts will total less than expected if the sum of consumers' actual savings plus any actual increase in the debts of business to banks exceeds the amount of financing business men had planned to absorb.

While the other four findings will be made useful presently, this fifth conclusion is the critical one for the controversy over the "dilemma of thrift" from which this paper started. Mr. Keynes is plainly right that the number of dollars per year saved must rise as national income rises. If we make the Keynesian assumption that visible investment opportunities depend almost solely on the terms of financing offered to business, then a rise of income plainly tends to make savings outrun planned financing. This in turn tends to cause receipts on consumption markets to fall short of expectations, and thus to make businessmen more pessimistic and to check the boom. The only remedy, under this assumption, is an expansion of cash and bank deposits which happens without any increase in the debts of business to banks, unless accidentally there is a favorable constellation under heads one, two, and three of our findings. But if we

[8] A simplified model of the symbolic argument is given in the appendix to this paper; see pp. 122-5, below. The same argument, in slightly more elaborate form, was presented in my article in the *Review of Economic Statistics* for May, 1937.

follow the more reasonable lead of Dr. J. R. Hicks and assume that visible investment opportunities at a given rate of interest increase as national income rises, the outcome is not quite so disturbing. Under this more sensible assumption, there is no necessity that the growth of savings should cause a "deficiency of purchasing power," although a possibility of this outcome remains. Most of the apparent force of Mr. Keynes's objections to thrift therefore vanishes if we give up his assumption of the rigidity of investment opportunity.

For most purposes, the five sets of conditions which may cause receipts on consumption markets to diverge from expectations are also adequate as a statement of the conditions under which sellers to consumers will find the demand for their products on the whole better or worse than expected. Ordinarily, a firm which takes in more dollars than it expects does so by means of selling a larger physical quantity of goods than expected, at a price at or above the expected level. But there is one important exception. A firm may cut prices in order to reduce its inventories, and thus have greater-than-expected receipts through selling an unexpectedly large quantity at an unexpectedly low price. In such a case, receipts exceed expectations for this firm not because it found markets better than it expected, but because it found them so much worse that it decided to sell off stocks on hand before they depreciated still more. But the price concession, attracting consumers' outlays away from other sellers, will cause those other sellers to have receipts below expectations. Attempts to sell off inventories by price cuts thus tend to cause general disagreeable surprises as to markets; and the contrary holds good of attempts to pile up inventories until buyers will meet an expected price advance.

The type of inventory-reduction campaign now on foot in business, it should be mentioned, is of a rather different type, since primary reliance is placed not on price cuts but on reduction of purchases. This means either that inventories are shifted backward from retailers to wholesalers, manufacturers, etc. (where they still look equally alarming), or that production is cut down and pay rolls, etc., fall. This reacts adversely on retail sales. There is serious danger in such circumstances that inventories will not shrink much, sales falling nearly as fast as purchases; and since falling sales volume reduces the apparent need of inventories, the situation may grow more and more frightening. When business is obsessed, as at present, with the idea of reducing inventories without price concessions, almost anything may happen; for it is next to impossible to reach equilibrium through getting inventories down to the desired extent.

III. *Necessary Conditions for Continued Business Improvement*

To go on from this foundation to a general discussion of business fluctuations and of economic policy is both beyond the bounds of this brief paper

and beyond the reach of the limited knowledge and experience I can bring to bear. Accordingly, I shall confine myself to a few rather unsystematic suggestions as to the general implications of my results.[4] To keep down the length of the paper and to avoid confusion, I shall state these in terms of the necessary conditions for continuance of a business upswing already under way.

The corollary to finding (1) of the last section indicates that the dollar volume of consumption sales in any short interval can increase substantially over the previous interval only if businessmen on the whole expect such an improvement; while if a substantial improvement is forecast, it will tend to realize itself. The same rule applies with even greater force to an expansion of the physical volume of sales to consumers. Such an increase must have been expected not only at the beginning of the interval in question but previously; for to put the goods on the market requires previous preparation.

Even though the expectation of improvement exists, however, so that business does actually improve, the movement will lose its momentum if the improvement over several successive intervals is less than expected; for this will certainly lead to pessimistic revision of estimates and thus undermine the improvement. Improvement can continue, therefore, only if experience of both selling prices and physical sales volume on the whole comes up to or exceeds expectations; that is, the improvement depends on the forces tending toward agreeable surprises balancing or outweighing those which tend to induce unpleasant surprises.

In times of rising business, there is a persistent bearish factor at work in the rising cash requirements of government and the increasing turnover cash requirements of business itself. In the early phases of revival, release of business balances through rising confidence is likely to furnish the necessary cash and bank deposits. But businessmen cannot forever grow more and more confident of their forecasting ability; so that this offset is limited. Bank deposits may expand; but in so far as this expansion takes place through loans to business it displaces consumers' funds from investment opportunities. Unless the business expansion opens up enough investment opportunities to absorb consumers' savings plus the expansion of bank loans to business, therefore, it is likely to stop itself through increasing cash requirements.

Several other factors acting through the consumption market must be treated as random influences. Their effect may at different times be either bearish or bullish. They undoubtedly explain part of the irregularity of the business curves and possibly some major turning points. Four of these

[4] To avoid possible confusion, I should state that I view my approach not as yielding a new theory of fluctuations, but as providing a tool which can be used in developing existing theories.

random influences deserve particular reference: (1) Discrepancies in business estimates for inter-firm dealings have a bullish influence if sellers expect a larger dollar volume than buyers; bearish in the contrary case. (2) Policies toward inventories may be unstable. When there is a widespread attempt to build them up, markets tend to be better than expected; whereas a general attempt to cut them down tends to fail in its purpose, while spreading gloom on every hand. (3) The distribution of surprises, as among industries whose investment plans are sensitive or insensitive to their sales experience, may vary. When the sensitive industries are the ones whose experience is unexpectedly good, the amount business plans to invest will jump (leading to general agreeable surprises); but if the sensitive industries are those whose markets are bad, planned investments will drop below savings. (4) There are certain industries (such as electric power and automobiles) whose sales are used by others as business barometers, and their experience will therefore affect investment plans. When their sales are conspicuously good, the effect is bullish. It should be added that the interpretation of their experience, and also of the experience of the firms doing the forecasting and planning, will hinge a good deal on what phase of the business cycle businessmen think we are in—for many of them are firm believers in the cycle. When they think a relapse is due, agreeable surprises on their own markets or on those of the "bellwether" industries will be discounted; while at other times they will receive more weight.

As a remedy for a slackening of the upswing short of the level of full activity, it is tempting to prescribe either an inflationary credit policy or an attempt to discourage savings by squeezing large incomes. In a short-run view, I am inclined to believe, such measures have a bullish substantive effect. That is, their influence, aside from what people think of them, is actually favorable to a renewal of the expansion. But this substantive effect, owing to the slowness with which such measures reach the factors actually affecting markets, comes on only with a lag; and its size is hard to gauge.

Unfortunately for the economist's peace of mind, steps taken by the government and central bank have effects also through what people think of them. Public policy does not act in a vacuum. It is a major focus of attention for the business forecasters; and every day the financial page carries columns of speculations as to the intentions of the policy-makers, the measures they are likely to adopt, and their prospects of success. This is one of the major perils of the present situation. It is well known that many of the monetary measures of the Administration in the last few years have done what they ought not to have done, and have failed to do what they ought to have done; and the public seems to have drawn the inference that there is no health in them.

This public skepticism has been built up largely by the Administration's tendency to rely more on what its press agents have said it was doing than on its real activities. Actual achievements in many directions have been substantial; but they have in general fallen far short of the Administration's rash advance predictions. Both the announcement that the government was about to do great things and the disappointment of expectations based upon that announcement are disturbing; and the adverse effects of exaggerated publicity have in some fields largely canceled the favorable substantive effects of well-conceived measures.[5] The public has for several years been kept in a state of perpetual excitement by a policy of making all measures, however small their substantive importance, sensational news; and we are threatened with something like a mass nervous breakdown in business. Perhaps the most constructive step the administration could now take would be to persuade its press agents to cultivate understatement rather than exaggeration for a change, so as to give the substantive effects of its measures a chance to work. In such a setting, if the administration can actually find means to reduce building costs (through getting down the prices of materials, through getting the industry reorganized so that the "annual wage" becomes workable, and possibly through guiding local governments in revision of their building codes and zoning ordinances), if it can come to terms with the utility companies, and if it can carry out various other thoroughly sound measures now contemplated, government policy may make a decisive contribution to a new business upswing. Failing such a revision in the tone of government publicity, further recovery must come in spite of rather than because of government action.

Symbolic Appendix

The conclusions listed at the beginning of section II of the text must be justified by symbolic analysis. A completely general analysis would be outrageously bulky and complicated; in consequence I confine myself here to a simplified model. The construction follows that of the *Review of Economic Statistics* article previously referred to, though the notation is slightly simplified here.[6]

[5] The Administration's current proposals for reducing building costs threaten to give a new example of this sort of failure. There is no doubt that a revival of building would help the country a great deal; and there is no doubt that if construction costs were lower building would go better. But though cost reduction actually achieved would be bullish, the advance announcement that the government will try to get costs down is bearish. It encourages postponing building in hopes of doing it cheaper next year; and it increases the uncertainty of business calculations in many industries. The press campaign may serve to convince the public that the administration is making an effort to resume business recovery; but it cannot do half so much toward breaking the log jam in building as (say) a local agreement in some one important center for reducing the cost of labor and of locally produced materials (bricks, etc.), which could be brought about just as well without advance publicity. If the campaign for cost reduction fails, as is quite possible, the attempt will have done more harm than good.

[6] This analytical device was suggested to me by a symbolic analysis of the savings-investment problem by Professor Erik Lindahl (Handelshögskolan, Gothenburg, Sweden)

Notation:

The following list defines the terms used:

M (*money*): sums on hand (in cash and bank deposits) at given date.

G (*goods*): sums changing hands in payment for goods and services.

F (*financing*): sums changing hands in connection with advances and repayments of capital funds; here used to show net advances less repayments, so that it may be less than zero.

D (*dividends*): dividends and profits withdrawn from business.

N (*new money*): net amount of new money (and bank deposits) created.

All these terms are used to give sums of all transactions of the sort indicated by the symbol and subscripts within a given "week."

Dealer subscripts:

Holders of cash and makers and receivers of payments are indicated by subscripts, as follows:

b (*banker*): financial institutions whose liabilities serve as "cash."

e (*enterprise*): nonbanking business firms, whether or not incorporated.

i (*individual*): persons in their private capacity.

Holders of cash balances are identified by a single subscript following the term. Transaction terms are followed by double subscripts, the first showing the classification of the receiver of payment and the second that of the payer. Thus: M_i denotes cash balances of private individuals, G_{ei} payments by individuals to businessmen for goods and services.

Estimator subscripts:

Transactions as anticipated may be different from the standpoint of the two parties. The estimator is therefore identified by a subscript before the term, either r (for the receiver of payment) or p (for the payer). Transactions as experienced are the same for both parties; so that no estimator subscript is needed. Where no such subscript is given, therefore, the term represents experience rather than anticipation.

Dates of cash-balance terms:

$M(0)$ denotes a cash balance at the beginning of the week.

$M(1)$ denotes a cash balance at the end of the week, as it turns out in fact.

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which was circulated in mimeographed form at the London School of Economics in the autumn of 1934. Despite differences in choice of symbols and in arrangement, the analysis here given is closely related to his. The chief difference in substance is that Professor Lindahl reasons chiefly in terms of income accounts, while my formulas represent exclusively cash accounts. This change has great advantages because the cash account for a past period is closed, so that accounts as experienced are certain; whereas the income account for all past periods is always subject to revision, since it involves capital values which rest upon anticipations for later dates.

$M(1,0)$ denotes a cash balance at the end of the week as estimated at the beginning of the week by the prospective holder.

Conbined anticipated cash account for all business enterprises:

Business has on hand at the beginning of the week $M_e(0)$ in cash; it expects to take in ${}_rG_{ee}$ and ${}_rG_{ei}$ from sales of goods and services respectively to other businessmen and to consumers; it expects to take in ${}_rF_{eb}$ from the increase of its debts to banks and ${}_rF_{ei}$ from investment of consumers in its securities. Business expects to pay out ${}_pG_{ee}$ for purchases from other firms and ${}_pG_{ie}$ for purchases (chiefly of services) from consumers; it expects to pay out ${}_pD_{ie}$ in dividends and entrepreneurial withdrawals (inter-firm dividends being ignored); and it expects to have on hand at the end of the week a cash balance of $M_e(1,0)$. This may be summed up in the formula:

(Formula 1)

$$M_e(0) + {}_rG_{ee} + {}_rG_{ei} + {}_rF_{eb} + {}_rF_{ei} \equiv {}_pG_{ee} + {}_pG_{ie} + {}_pD_{ie} + M_e(1,0).$$

This may be rearranged to show anticipated receipts from sales to consumers as follows:

(Formula 1a)

$${}_rG_{ei} \equiv {}_pG_{ee} - {}_rG_{ee} + {}_pG_{ie} + {}_pD_{ie} - {}_rF_{eb} - {}_rF_{ei} + M_e(1,0) - M_e(0).$$

Combined experienced cash account for all consumers:

In actual experience, consumers' cash on hand at the beginning of the week, plus their receipts from business and from banks (represented here only by dividends) must have the same total as their outlays for purchases of goods and services from business and for investment in securities, plus the cash balance left at the end of the week. This may be summed up by writing:

(Formula 2)

$$M_i(0) + G_{ie} + D_{ie} + D_{ib} \equiv G_{ei} + F_{ei} + M_i(1).$$

Transcribing and rearranging, we may find actual receipts of business from consumers:

(Formula 2a)

$$G_{ei} \equiv G_{ie} + D_{ie} - F_{ei} + M_i(0) - M_i(1) + D_{ib}.$$

Allowance for banking:

If we suppose that money is created only by banks, and that their only expense is dividends, we may write:

(Formula 3) (Formula 3a)

$\mathcal{N} \equiv F_{eb} + D_{ib}$; whence $D_{ib} \equiv \mathcal{N} - F_{eb}$.

This enables us to rewrite Formula 2a into:

(Formula 2b)

$$G_{ei} \equiv G_{ie} + D_{ie} - F_{ei} - F_{eb} + M_i(0) - M_i(1) + \mathcal{N}.$$

Excess of expected over actual receipts from consumers:

Having obtained expressions both for receipts as expected (Formula 1a) and for receipts as experienced (Formula 2b), we may easily subtract the second from the first, which gives us an expression for the "deficiency of purchasing power," as follows:

(Formula 4)

$$
\begin{aligned}
{}_{r}G_{ci} - G_{ci} \equiv\ & [{}_{p}G_{ee} - {}_{r}G_{ee}] \\
& + [({}_{p}G_{ie} + {}_{p}D_{ie}) - (G_{ie} + D_{ie})] \\
& + [M_{e}(0, 1) - M_{e}(0) - N] \\
& + [M_{i}(1) - M_{i}(0) + F_{ei})] \\
& + [F_{eb}] \\
& - [({}_{r}F_{eb} + {}_{r}F_{ei})].
\end{aligned}
$$

Interpretation of Formula 4:

The first term in brackets shows the discrepancy in plans for inter-firm dealings (cf. conclusion 3 of the text, p. 118).

The second represents the excess of planned disbursements of business to consumers over actual disbursements (cf. conclusion 2).

The third represents planned increases in business cash balances, less the creation of credit (increase in total balances) (cf. conclusion 4).

The fourth represent consumers' saving—or, if you will, savings excluding corporate savings and savings invested in goods bought by consumers from business.

The fifth represents actual advances from banks.

The sixth represents the amount of capital funds business had planned to derive from banks and individuals.

The fourth, fifth, and sixth terms combined are the foundation of the fifth conclusion of the text.

WAGE RATES

By LEO WOLMAN
Columbia University

Some of the relations between wage rates and the flow of investment are direct and reasonably simple. In businesses that are going concerns it is customary to replace obsolescent with new equipment and thereby to maintain or increase the efficiency of labor. In the absence of such replacement, revisions in existing standards of pay may and do become necessary.

Within many industries geographical competition among firms often leads to the diversion of business from high to low cost regions and to substantial investment in plant and equipment in the newer areas. A recent report[1] on the progress of mechanization in the bituminous coal industry says:

> The geographical distribution of mechanical loading has been much affected by physical conditions and by differentials in wage rates. The areas where mechanization has advanced farthest down to the end of 1935 were the Northern Rocky Mountain States, Illinois, and Indiana, areas where seam conditions were favorable and where, during the period from 1923 to 1933, wage rates, by comparison with the southern and eastern fields, were relatively high. . . . In the Appalachian States . . . the proportion mechanically loaded was much smaller. . . . Recently market conditions and the trend of wage rates have tended to stimulate mechanization in the Appalachian region, and a large part of the sales of equipment reported by manufacturers in 1936 went to the bituminous fields of the East and South. . . . The largest installations of mechanical loading equipment seem to have been made in West Virginia. . . . The increase indicated for West Virginia is continuing into 1937. In April 1937 the report of the State Department indicated that 12.6 per cent of the State output was loaded with conveyors or loaders compared with 2.1 per cent as late as 1935.

These developments are not peculiar to the coal industry. They have been and are the normal consequence of the quest for lower costs and more favorable conditions of manufacture in a wide range of American industries. Since the recovery of business in 1933, the movement of wages and other elements of the labor situation have contributed to substantial shifts in the location of plants in the textile, rubber tire, automobile, and metal industries. While no estimates of the amount of investment required for such a transfer of activities are available, it is clear that it must have been considerable.

An analogous condition exists where excessively high wages or labor cost in particular occupations or jobs in time brings on new investment and the substitution of machines for men. This is a continuous process, common to all industry, and it is limited in extent by the availability of funds for investment and by the reasonableness of their price or by the sensitiveness of wages and labor cost to changing conditions of the market.

[1] O. E. Kiessling, F. G. Tryon, L. N. Plein, F. E. Berquist, "Progress in Mine Mechanization," in *Minerals Year Book 1937*, U. S. Government Printing Office, Washington, 1937, pp. 36, 37.

Added to these occasions for the growth of investment is the application of capital to industry during periods of the general expansion of business. In such times, there is a marked acceleration in the flow of investment funds. New industries are begun and developed; old ones are reorganized. New areas are opened up and unused pools of labor are brought into use. Unexploited resources are tapped. Inventions and new methods of production, requiring the expenditure of funds, are introduced. Construction and capital-producing industries expand. In the process, active competition for labor tends to raise rates of wages in both old and new industries and to sustain them at these higher levels as long as the phase of expansion lasts. Part of the gains so made have, in the past, usually been retained during the succeeding period of declining business and employment.

It goes without saying that the use of investment funds in large volume for these purposes and in this manner depends on the existence of favorable surrounding circumstances. In the labor situation such circumstances would involve the capacity to make long-term commitments as to labor cost, the assurance of a reasonable degree of industrial peace, the absence of wholesale and drastic restrictions on output and the use of machinery, the existence of a level of wage rates and labor cost commensurate to the capacity of industry to pay, the ability of management to maintain accepted codes of discipline, and protection of the labor force against a progressive deterioration in quality.

How far these elements of a labor situation, favorable to the expansion of investment, have existed since 1933, it is, of course, difficult to say. But the available record is sufficient to permit at least a tentative appraisal of the most striking features of our current labor situation.

On two occasions since the middle of 1933 there have been quick and exceptional increases in labor cost. The first was in the few months following the inauguration of the NRA; the second in 1936-37, a period coinciding with the rise of the C.I.O. While there are no satisfactory measures of labor cost itself, at least two important elements of labor cost, wage rates and hours, can be measured with considerable accuracy for these years and the remaining elements can be estimated in useful, if general, terms. On the movement of wage rates and hours of work in this period I shall use only figures for the manufacturing and bituminous coal industries. In manufacturing the average rate of wages was forty-two cents an hour in June, 1933, and sixty-six cents in August, 1937. The rate of wages for this type of labor, covering some eight to nine million persons, thus increased 57 per cent. If pay roll taxes for social security are included the increase would be 60 per cent in 1937, and at the beginning of 1938, 61 per cent. In bituminous coal, the increase in the rate of wages during the same period was 99 per cent.

The average full-time work-week in manufacturing industries was in 1937 from seven to eight hours less than in 1929. Compared to the last months of the depression, the reduction in the length of the work-week was even greater and may easily amount to ten hours per week. The average normal work-week in manufacturing in 1937 was roughly forty hours. In bituminous coal it was thirty-five hours. From 1933 to 1937, the reduction in the length of the work-week of soft coal miners exceeded that of manufacturing considerably, and amounts in some estimates to as much as thirteen hours per week.

Forces operating in the American labor market since 1933 have probably raised other costs of doing business as well. In the past four years, the organized labor movement of this country has enjoyed an exceptional increase in membership.[2] In the autumn of 1937, total membership of all the groups in the American labor movement may be conservatively estimated at six million, or twice the number in 1933. This is the largest membership ever recorded in this country and exceeds the previous peak of 1920 by roughly one million. One important consequence of this growth has been the spread of unionism into unorganized industries, such as steel, automobiles, cotton, and metal manufactures.

In the industries which have been recently organized, the unions have brought with them their traditional policies and practices of restriction. While many of the new unions are still too weak to enforce their will, the kinds of demands they have already made and the occasional concessions they have won, as well as their general behavior, suggests the prospects of increasing costs arising out of the adoption of the usual devices for restricting output. In other directions, the more extensive adoption of union rules, limiting the right of management to discharge and enforcing seniority rules in the hiring and layoff of labor, are having the effect of restricting the powers of management, keeping less competent workers on the job, and slightly but gradually and measurably adding to the costs of operation.

Regarded in terms of the total business situation, the character of the recovery we have had since 1933, and the persistence of high rates of unemployment in many branches of industry, these increases in labor cost would appear to be excessive, difficult to absorb, and, hence, not calculated to encourage new enterprise, risk-taking, and the investment of large funds in industry. Professor Alvin Hansen put it forcefully and in my judgment accurately when he said:[3]

> The failure of new investment in this recovery is due in large part to a tendency to push costs up higher than the level of income justifies. This is due partly to governmental

[2] For estimates of recent changes in union membership see Leo Wolman, "Union Membership in Great Britain and the United States," Bulletin No. 68, National Bureau of Economic Research, December 27, 1937.

[3] Alvin H. Hansen, "The Consequences of Reducing Expenditures," *Proceedings of the Academy of Political Science*, XXVII, 4, 70-1.

policies. It is notorious that building material and labor costs have been pushed to a level that prevents the construction of new houses on a scale commensurate with current requirements. . . . In our basic industries there is danger that continued increases in wage rates may place our cost structure in a disequilibrium position with respect to the outside world. The administration, and with it public opinion, has never faced the utter fallacy of trying to boost income, output and employment by raising costs. The question may well be asked whether certain types of federal expenditures have not in large part had the effect of boosting costs when the real purpose was to increase income and employment. We have apparently yet to learn the lesson that high wage rates do not of themselves guarantee a high labor income and full employment. We have too often put the cart before the horse.

These forces which have already made for high labor costs will not in the near and predictable future yield to the necessities of the business situation but may indeed be reinforced by the rising power of organized labor and government and by the influence of new institutions created to effect social reform and to improve the lot of labor. The belief in the efficacy of high wage rates neither the government nor organized labor may be expected quickly to discard. Public commitments to this doctrine have been too frequently and too vigorously repeated. Much of the gains won by the unions may be traced to the organizing campaigns and strikes that resulted in substantial advances in the hourly rate of wages and equally considerable reductions in the work-week. A large part of the political following of this Administration may likewise be traced to the promise of higher wages and fewer hours.

Now that the course of business has changed and we face declining employment and pay rolls and narrowing margins of profit, the high wage doctrine seems more tenacious than before. The chances for general adjustments in wages are not bright. In the industries producing consumers goods, whether unionized or not, moderate wage adjustments have been made and, if the depression fails to lift, more may be expected. But in the great basic industries of the country engaged in construction and the making of equipment, where recent rises in cost were exceptionally steep and quick, rates of wages and hours of work appear to be fixed for some time to come. It is this group of industries in the main which lagged in the recovery and which are most dependent for full employment and satisfactory revival on an adequate supply of investment funds.

The continuing conflict for supremacy between the American Federation of Labor and the Committee for Industrial Organization will act to support existing wages while the depression lasts and to raise them again once business begins to improve. For in their struggle for membership, these two organizations will compete against one another by offering potential members higher standards of wages and hours and by hesitating to recede from standards already in force. How far such competition may go is suggested in the recent contest over the provisions of the Wages and Hours bill when the A.F. of L. outbid its rival by supporting national minima of forty cents an hour and forty hours a week while the C.I.O. was willing to

accept minima, presumably lower than these, adjusted to prevailing industrial and geographical conditions.

Proposed legislation, like the Wages and Hours bill, although aimed at raising the rates of wages and reducing the hours of work of only the lowest paid and hardest worked labor, could hardly be made effective without resulting in a general increase in labor cost in the factories and industries affected by the law. Wherever minimum wages of unskilled labor are fixed in the law, the practical necessities of management will require the maintenance of existing wage differentials and, therefore, a general rise in the rates of all grades of labor. If, furthermore, the purpose of this type of national legislation is, as it is often stated to be, the achievement of greater uniformity in prevailing geographical and occupational wage differentials, then the rise in wages and cost may well be much greater than is contemplated by supporters of the bill.

There remains a relatively new factor whose influence will probably be exerted in the same direction. This factor is our social security legislation and, in particular, our unemployment compensation laws. For practical purposes they become effective in the beginning of 1938. Under the terms of these laws, as of all similar legislation, it becomes the continuing function of established agencies of the government to define employment and unemployment and hence to determine whether jobs offered to the claimants of unemployment benefit are suitable or not. In the exercise of this duty these agencies are required to review wages and working conditions and to pass upon them. If we may judge by foreign experience in this regard, decisions as to suitable employment tend shortly to freeze existing standards of work and wages at levels higher than they would otherwise be. As I pointed out some years ago:[4]

> Some formal and generalized definition of unemployment will be required in any system of unemployment insurance. But once the system of definitions becomes rigid and insensitive to industrial change, the resultant administrative practice will be forced to add to the unemployment which it is created to relieve and reduce. . . . The elaborate rules and practices that have grown up in the English system around the notion of suitable employment, wherein eligibility to benefit turns on the availability of almost the right kind of a job, are bound in the long run to delay or obstruct that free absorption of labor which is a prerequisite to business activity. It would seem to me to be doing no violence to the record of experience to say that the successful management of widespread systems of unemployment insurance involve . . . complete overhauling of the doctrine of suitable employment and of its corollaries.

We enter the next phase of business, whatever it may be, with the costs of labor already high. In the current depression the elements that go to make up labor cost are stubbornly and effectively resisting the forces of adjustment. As far as one can see into the future, the policies of

[4] Leo Wolman, "Some Observations on Unemployment Insurance," *American Economic Review*, Vol. XIX, Sup. 1 (March, 1929), pp. 26-7.

government and organized labor and the effects of our unemployment compensation laws will combine to fix labor cost at levels not much lower than they are today. This, in my judgment, is a labor climate not favorable to the large-scale expansion of investment and hence of employment and earnings.

FISCAL POLICIES

ROBERT MURRAY HAIG, *Chairman*

The chairman called attention to the significance of the discussion, representing as it did an effort to focus upon the problem the attention of specialists in both monetary theory and public finance, fields that in America are often segregated to an unfortunate extent. He also made a plea that economic reformers, in formulating their proposals involving the use of fiscal tools to achieve remote and indirect economic effects, give due consideration to the immediate objectives, such as productivity, ease of administration, certainty and equity, which students of public finance consider important.

Commenting on the paper of Arthur D. Gayer, Alfred G. Buehler said:

> Although the stabilizing effects of public expenditures on economic conditions have been greatly exaggerated in popular discussions in recent years, it seems probable that properly planned, long-range expenditure programs may tend to lessen somewhat our general economic fluctuations. Serious difficulties arise, however, in the effort to control public spending so that instability is not increased, so that public moneys are not wasted on fruitless projects, and so that government budgets are not dangerously unbalanced.

After observing that relatively little thought had been devoted to the effects of taxation upon cyclical movements, Mr. Buehler commented on the availability of the various types of income taxes and death duties as business stabilizers:

> Excess profits taxes have . . . proved to be impracticable of administration. . . . Income, estate, and gift taxes may be used, to be sure, to reach income that might be saved, . . . to raise revenues for more rapid debt retirement . . . so that depression spending may be supported safely by borrowing. . . .
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> A practical difficulty . . . is the possible unwillingness . . . to cut debts substantially during prosperity. . . . Further complications arise in the attempt to develop a flexible borrowing and tax program with the maximum stabilizing effects and the minimum damage to economic processes.

Selecting the undistributed profits tax for extended analysis, with particular reference to its economic repercussions, Mr. Buehler said, in part:

> In sponsoring the undistributed profits tax, Treasury officials . . . as well as those of the corporations in defense of their practices, exaggerated the facts. It was true, of course, that corporate speculation helped to carry the boom of the 1920's to excessive heights, and that corporate reserves, with some exceptions, were inadequate to maintain a steady stream of dividends during the depression and to provide stabilized employment. The reserves did serve to some extent, however, as a shock absorber against the ravages of the depression. Not only corporate investments, moreover, but investments in general were carried away by the speculative optimism of the predepression era. It would be foolish to blame the corporations alone for producing the boom of the 1920's and the subsequent depression. . . .
>
> The problems of investment fluctuations cannot be considered merely in terms of the amount of savings and other funds available for investments. The control of investments involves the control of the demand for funds as well as the supply. . . . Corporate savings and investments, moreover, are only two of the many important elements in economic instability. . . .
>
> Undistributed profits taxation . . . has undoubtedly operated to increase the cash dividends of corporations and to reduce the undistributed profits, although much of the increase in dividends must be attributed to improved business conditions. . . .
>
> The business world is generally convinced, if one may judge from recent surveys, that the undistributed profits tax is a serious detriment to raising capital necessary for expansion purposes, and that the tax has exerted a depressing influence on production. It is pointed out that there has been a dearth of new security financing while the tax has been in operation. . . . The capital obtained from security issues has, of course, fluctuated more than

the capital derived from retaining profits. The chief detriment to new security issues has probably been the business outlook, although governmental restrictions upon the issue of new securities and security exchange activities have also had some effect.

In conclusion Mr. Buehler said:

> The most serious problems in all proposals (to tax undistributed profits with a view to stabilizing economic conditions) are (1) the determination of the proper amounts of investments, (2) the proper rates of change in investments, (3) the proper allocation of investment funds, and (4) the perfection of a technique of control. The active controversy among theorists concerning the importance of various factors in cyclical movements, the paucity of data relative to business investments, and the inadequate development of business forecasting are further obstacles in a control program. . . .
>
> An undistributed profits tax may have a limited usefulness as an auxiliary measure in stabilizing investments, but by itself it is apparently inadequate to accomplish the desired end. . . . It is plainly no panacea for business cycles.

Arthur R. Upgren presented an analysis of prices and output since 1932 indicating that "since 1935 in the case of the United States . . . wholesale prices have been increasing at a more rapid rate than industrial production." The data "suggest a possible measure of inflation that may be expressed in the form of an index, . . . applicable to the situation for output as a whole and to the situation for individual industries." He continued:

> It must be emphasized that this index is only an index of relative inflation. With the measurement of relative inflation by the ratio of price rise to output increase, the positive scale of the index would range from zero (no inflation, i.e., no price rise accompanied by a positive increase in production) to infinity (price rise without increase in production). The point recorded by 100 on such a scale may be regarded as a "critical" point, for indexes above this point indicate prices rising faster than output, or, what might be termed "absolute" inflation. What has been termed a secondary objective of expansionist measures, debt-burden reduction, can be achieved under such a condition but an equitable distribution of income hardly can.
>
> Based on the index that has been suggested "serious" but short-lived inflation commenced in the United States in 1937. In the United Kingdom and Japan inflation was substantial in 1936. It became absolute in all countries except the United States in 1937.

Two aspects of fiscal policy were selected by Mr. Upgren for special examination against the background of his price-output analysis; namely, "the perverse elasticity of taxation and a very special tax proposal that would serve in time of boom either to secure more appropriate elasticity or as an aid in control of the boom." In this connection, he said:

> If the burden of total taxes is measured by the proportion of the national income which they have absorbed it is found that from 1916 to 1919 inclusive total taxes paid required 18.9 per cent of the national income in the same years. In the four years of substantial prosperity from 1925 through 1928 taxes absorbed 10.8 per cent of the national income of these years. But in the four years of depression from 1931 to 1934 the burden of taxation was equal to 18.4 per cent of the national income in the depression years. Thus, we observe in depression years an increase of 70.0 per cent in the proportion of income required for payment of taxation. The correction of the disequilibrating influence of taxation may be obtained either by remission of taxation during depression or by its increase during prosperity or by both of these two methods. In the proposal which follows attention is directed toward one way in which taxes might be increased "when, as and if" boom or rather inflation develops.
>
> For the very special purpose of taxing windfall, monopoly, or inflation profits, consideration might be given to the suggestion that one element in tax policy of the government might be based, in the period of boom, upon the trend in price. Such a tax might consist of an additional graduated, progressive schedule of rates of taxation of profits. These graduated rates might apply to corporate incomes in accordance with the rate of price advance that caused the profit inflation to which the tax would apply. The

profit inflation could be measured, tentatively, by the increase only in profits from a selected base year and more permanently might be measured from the basis of a fair return if it were desired to combine the tax with an excess profits taxation proposal. The rate of taxation should be graduated with the rate of advance in the index that reflects the ratio of price increase to output increase.

Carl Shoup contributed a critical examination of the problem of the proper treatment of the various types of nonprogressive, flat-rate taxes in arriving at an estimate of the amount of "income-producing expenditure of government," such as that utilized in Mr. Gayer's paper. He summarized the problem and his conclusions in the following paragraphs:

> In computing the net amount of net federal income-increasing expenditures tax payments are subtracted from expenditures except that it is sometimes assumed that collections from the upper brackets of the income tax and of the gift and death taxes need not be subtracted; in other words, it is assumed that these tax collections come out of "idle" money that would otherwise not be spent, for a time at least, either directly or through investment. For example, the data used by Professor Gayer rest on such an assumption for death taxes during depressions. The question then arises, may it not be just as reasonable to make the same assumption about certain other taxes?
>
> Evidently the property tax is potentially very important in any discussion of what taxes to subtract and what not to subtract from expenditures in order to get a figure of government's net income-increasing expenditures. The highway taxes and the liquor taxes are far less important, but should not be neglected altogether. It seems doubtful whether the other flat-rate taxes need be considered, particularly in view of the broad strokes with which the picture must be painted. Since the property tax, the highway taxes, and the liquor tax are producing together at least 6.3 billion dollars and probably somewhat more, it is not impossible that the amount of otherwise idle money involved is in the hundreds of millions. This amount may therefore well be as great as the amount involved in the higher brackets of the income, gift, and estate taxes. More definite conclusions must await more detailed figures, particularly with respect to the property tax, where a breakdown into business and nonbusiness property and into land and improvements for the real estate total, are badly needed for many purposes.

Melchior Palyi discussed certain aspects of the theory of Keynes in the light of experience in various countries, with particular reference to what he termed "inhibited inflation," an interesting illustration of which he found in the Russian experience. He stressed the importance of certain psychological factors, such as general community comprehension of the character of the economic process actually under way.

Fritz Lehmann stated that Mr. Shoup's analysis convinced him of the desirability of taking certain flat-rate taxes into account but challenged Mr. Gayer's use of the index of velocity of circulation. He also contributed a brief summary of the study, recently completed by him in collaboration with Gerhard Cohn, stressing the interaction of such factors as the taxation of undistributed profits, the taxation of capital gains, and the exemption of government securities.

Harley L. Lutz expressed a strong protest against the use of the public finances as measures for controlling business fluctuations and entered a plea for balanced budgets and retention of "democratic control of expenditure," which he considered to be threatened by deficit financing. Budget balancing over the term of the cycle, he contended, was technically impossible because of the lack of foreknowledge regarding the length of the cycle. In the course of further discussion, in which Messrs. Palyi and Upgren participated, the point was made that estimates regarding the course of the business cycle could not be avoided in any case and Mr. Lutz conceded that the problem was partly one of degree

and that unbalanced federal budgets for certain years at the depth of the depression were probably unavoidable.

Others who participated were Alexander Sachs, who summarized the results of certain statistical analyses of tax repercussions he has recently made; Fritz Karl Mann, who pointed out the unfortunate dilemma presented by the fact that the taxes most attractive from the point of view of equity were most vulnerable to fluctuations in business conditions; and Rufus S. Tucker, who called attention to the manner in which the problems of undistributed profits taxation and capital gains taxation were intertwined.

At the close Mr. Gayer summarized the discussion and commented upon the criticisms, most of which he felt would be found to be met by the complete version of his paper when published.

SOCIAL SECURITY PROGRAM

WILLIAM A. BERRIDGE, *Chairman*

ELEANOR L. DULLES: Two fallacies have often influenced the discussion of the effect of social security legislation on financial and economic conditions. One of these misunderstandings has caused the old age reserve to overshadow the spending and taxing provisions of the Act. Even in the early years, the excess of taxation over expenditures under all titles of the Act is not very great, and this excess tends to disappear when the program is well under way. The reason for the current opinion to the contrary held in many quarters is that it, for the most part, ignores the considerable sums being spent under Public Assistance. These disbursements bring the program very much closer to balance than is generally thought. Certain other expenditures help to bring up the total even though they are, of course, small compared to the main items considered here.

A second confusion grows out of the tendency to discuss the year 1980 rather than the earlier years. Although it is true that in 1967 the deflationary element in old age insurance to the extent that it existed before will have disappeared, the magnitude of the figures for the later years is staggering to those who are thinking in terms of pre-War relationships. If examined in a different way and compared with a series of curves showing the growth in many factors from 1910 to 1937, the possibility of further substantial changes seems reasonable between 1940 and 1980.

The relative importance of different parts of the program is indicated by the estimates of relative percentage importance of disbursements under all the titles. It is clear in the figures given below that Old Age Assistance is the most important part of the disbursements in 1937. In 1940, however, disbursements under the federally sponsored unemployment compensation plans will greatly outweigh the other titles. A little later, disbursements for old age insurance tend to pass other expenditures under the Act and finally come to overshadow the other titles. When this time comes, expenditures scheduled will substantially exceed the tax collections under the Act.

The estimates here given are based on tentative projections of present expenditures and on certain actuarial calculations. The totals assumed in making these percentages range from about 200 millions in 1937 to approximately 5 billion dollars in 1980.

EXPENDITURES UNDER VARIOUS TITLES
PERCENTAGE OF TOTAL

		1937	1941	1950	1980
I.	Old Age Assistance	64.77	25.16	18.50	7.66
II.	Old Age Insurance	3.11	5.55	25.07	68.98
IX.	Unemployment Compensation	0.52	51.46	46.61	19.29
	All Other	31.60	17.83	9.82	4.07
		100.00	100.00	100.00	100.00

It is sufficient at this point to indicate that the figures for the later years are little more than informed guesses. The estimates for 1980 can be adjusted some five or ten years prior to that date. Progressive improvement in estimates

means that for practical purposes the errors are not so important, but in theoretical discussions the errors must be kept clearly in mind at every point.

In order to judge the effects of the Act on money and credit markets, it is important to note exactly what financial mechanisms are being used. It is generally taken for granted in discussions of the Act that its immediate deflationary effect is the result, for the most part, of the fact that taxes on pay rolls affect spending to a greater degree than do more progressive taxes. It is important in this connection to remember that the Act is financed out of various types of taxes. The federal government is obligated to make certain payments out of general revenues. The states are participating in the system, which calls for considerable expenditures on their part. Granting the varieties of provisions and methods used, recourse is had to practically every type of tax. For the present, of course, the pay roll tax under Title VIII and contributions under Title IX have the preponderant influence on the working of the program.

If the expenditures under the Act balanced precisely at the present time with collections under the Act, the problem of their influence on purchasing power and investment would still have to be considered. Attention would then be focused on whether the spending by the groups and classes now covered would be affected indirectly, and partly by psychological means, by reason of the social security program. The various income classes will, on the whole, and in the long run, get back about the same amounts they put in. In the immediate present, however, this is not the case.

For the first few years, the effect on investment seems to be about as follows. The federal government is securing from various types of taxation more money than it is likely to spend under existing programs and appropriations. It will thus be in a position to retire a part of the federal debt. As far as can be ascertained in advance, this will work in the direction of releasing certain types of funds in the money markets for investment in nongovernment enterprises. It has been alleged that in a time of depression these released funds will lie idle and that in a time of prosperity they will tend to accentuate the boom. These arguments have been brought forward by some without considering the fact that over the cycle the Unemployment Compensation Trust Fund tends to act as an offsetting or stabilizing force in this set of relationships.

Moreover, although the old age benefit spending tends to remain stable over the cycle, the old age taxes, like the unemployment compensation contributions, will decline in depressions. The combined effect of the two programs is not likely to work in a "vicious" manner on the money markets. In fact, there is some reason to think it will be a healthy and constructive influence in booms and depressions.

The qualification to this situation should be noted in connection with a "staggering" of the old age benefits taxes. There is no possible way of knowing now whether these years will be timed well or badly with general economic fluctuations.

The counteracting tendencies running against any deflationary influence are important enough to warrant serious consideration. Some of the compulsory savings under the Act may replace other types of voluntary savings which would otherwise have occurred, such as workers' savings and corporate savings. Some

of the taxes collected under the Act may be offset by new or additional government spending for relief and public assistance and for productive or construction enterprises. If purchasing power is deflated temporarily to some extent, new credit may serve to stimulate additional demand for goods, so that workers may be in a better position to borrow for their personal spending and the government may be in a better position to borrow. Also, the Treasury, in handling the funds, has certain technical mechanisms at its disposal which can help to cushion the effects, and the Federal Reserve banks, FDIC, SEC, and other financial agencies, by a number of methods, can influence the interest rate and the volume of savings so as to counter deleterious effects of social security operations. Finally, it may be pointed out that the Act is almost certain to be amended in such a way as to advance the date of certain disbursements or to increase outpayments.

In order to make plain as far as possible the points at which the old age reserve financing really touches the economic system, the procedure may be divided into several different steps: (1) appropriation by Congress to the Reserve Account, (2) collection of pay roll taxes under Title VIII, (3) transfer of certificates to the Reserve Account, (4) payments from the Reserve Account to beneficiaries, (5) disposition by the Treasury of funds available—when the reserve is invested in special obligations—and (6) formulation of budget policy by Congress.

The appropriations by Congress to the Reserve Account are made each year and are based on actuarial calculations as to annual premiums needed to make the program self-sustaining. If expenditures under Title II of the Act were increased, it would call for increased appropriations unless the particular instructions as to how the appropriations were to be made are altered.

The collection of taxes is a continuous process. Although the employers are obligated to pay on a quarterly basis, because of various factors, including delinquency, returns are coming in constantly to the Bureau of Internal Revenue. The transfer of Treasury notes to the Reserve Account occurs monthly, the funds being made available under the appropriation acts. Payments at present are small. The amount spent will grow slowly until 1942, when monthly benefits begin and after that will increase much more rapidly.

The disposition of the funds available under Title II occurs more or less as a matter of routine. Under the Act, the Account must be invested to yield at least 3 per cent and has taken the form of 3 per cent special notes. This manner of handling the investment does not in any way preclude or relate to the retirement of the debt. It is simply a technical, intermediate step. The interest paid on the certificates in return for the use of the money is slightly above that of the present rate of borrowing as indicated by the average for the public debt. The Treasury incurs an obligation which cannot be overlooked. If these funds are used to retire old debt or as an offset to new debt, they are saving the taxpayer the burden of interest on the publicly-offered debt. This saving is almost identical with the cost of servicing the certificates in the Reserve Account. It is difficult to imagine any other use to which these funds can be put.

Mention has been made of the general budget policy as a separate process in order to emphasize the importance of this in connection with the use and

effects of social security funds. If Congress wishes to expand governmental spending beyond the present limits, it is likely that they will do so as long as they consider that they can collect funds either by borrowing or by taxation from any source. If Congress considers it wise and necessary to restrict spending, the existence of the Reserve Account does not prevent this. Whether or not the apparent increase in revenues available under the Act will lead to a loose and uneconomic policy is a question which falls outside the scope of this discussion. There is no such easy money as has been assumed by critics of the Act. The points at which one can expect certain real differences in economic effects growing out of old age benefits financing are two. In connection with the appropriations by Congress to the Reserve, it should be observed that if Congress does not live up to the obligations set up for it in the Act, serious problems with regard to later obligations are raised. Then again, the use of funds released by the issue of special certificates is important, but primarily in connection with the formulation of the general budget policy.

It is essential for certain purposes to appraise the degree of reliability of present estimates of future payments and taxation. It is considered by many persons, however, that the figures prepared a year or so ago will not be reliable indications of what is going to happen. This does not mean that they are useless, because these estimates are in process of revision constantly and the errors applicable in the next few years are relatively small as compared with the errors in the later period.

It is important to note that there are some eighteen assumptions underlying the estimates in current use. Many of these are subject to considerable error. There is one assumpion in particular which will affect cost figures; that is, the assumption as to the degree of turnover and migration from uncovered to covered employment. A second assumption which is of great importance is the age of retirement which will be found to characterize those under the system. The average has frequently been assumed to be sixty-seven and one-half years, sometimes sixty-six and a fraction years. The cost will be very much influenced by this factor. A third assumption which may be selected from a group of factors that condition future financial operations is the average level of wages from year to year. There is, also, always the possibility that legal changes and extraordinary measures may be instituted.

In the light of quantities and procedures above outlined, certain conclusions with regard to the net effect of the Act may be suggested. It is generally considered that the Act is somewhat deflationary, but it is not likely that the net deflationary effect will be as high as the collections under Title VIII in any one year.

With regard to the savings under the Act, it is clearly a savings program, as the above comment on deflation indicates, but this savings in the first instance is confined to a monetary influence. There is no procedure or provision of the Act which makes it likely that all the money saved in the first instance will flow into producers goods. The direction it will take will depend on the way the federal budget influences the money market and how private industry wishes to

use the funds released from public investment for private uses. In certain periods there may be a rapid expansion of capital goods. In others, the money may remain idle or actually flow into consumers goods. There is, of course, the possibility that the federal government will itself go into capital enterprise. This is not an immediate prospect and is, for most purposes, a limiting or theoretical possibility.

EDISON L. BOWERS: Any analysis of the possible effects of unemployment insurance upon production and investment must be predicated upon the nature of the financial operations involved in such a program. It may be observed, first, that the cost of unemployment insurance is levied as a tax on wages; second, in so far as it is a substitute for other types of unemployment relief its cost is not a new one; third, the cost may, under certain conditions, be shifted; and, finally, unemployment insurance in its present form is a forced savings device.

The nature of the financial transactions involved in the process of providing benefits for unemployed persons is quite as important as considerations of cost. These financial transactions, which may be stated in terms of types of transfer plans, are: (1) benefits may be paid directly from current contributions; or (2) benefits may be paid from past contributions (the reserve plan); or (3) benefits may be paid from borrowed funds; or (4) all three plans may be in simultaneous operation. The reserve plan will be followed largely in the ensuing discussion.

If unemployment insurance contributions are levied upon the employer in the first instance, the final incidence of the cost will depend upon such considerations as the elasticity of demand for the product, cost conditions under which it is produced, the amount of unemployment, and the level of prices. Suppose, for example, that the employer cannot shift the original contribution charge. What happens? Perhaps cash balances are reduced or the money is borrowed from the bank; perhaps dividends are restricted or reinvestment is curtailed. If reinvestment is actually curtailed, there is a direct connection between unemployment insurance and the decline in investment in the particular business, but it does not follow that total investment will necessarily be less; moreover, whatever the effect of the added charge upon industry is, it applies mainly to the initial step in the process of converting contributions into benefits.

Suppose the employer's inability to shift the contribution costs restricts dividend payments. What will be the effect upon new investment? Probably there will be some decline in consumption demand among dividend receivers of small means, which may react unfavorably upon new investment, but the larger dividend receivers, whose consumption demands for the most part will not be affected, will have less funds available for investment; yet the actual amount of new investment may not decline, because savings represent only a fund for investment at a price. Suppose, however, one's analysis leads to the conclusion that the net effect of collecting unemployment insurance contributions is to curtail new investment. The answer would be meaningless unless related to the time factor. And suppose one were thinking of the curtailment of investment which resulted from collecting contributions during a so-called "boom" period. Would the

further conclusion be that such a result were desirable or undesirable in respect to general business stability in the long run? That is the ultimate question toward which most economic controversies point.

The effect of collecting contributions and of investing them is clarified somewhat if one considers the financial arrangements required by the Social Security Act in relation to past experience. Suppose a reserve fund had been accumulating in the twenties and the Unemployment Trust Fund had bought outstanding issues of United States bonds. From what sources would it have obtained them? Clearly, only those holders of bonds would have sold who felt that the higher prices, which would have resulted from the additional buying, offered sufficient incentive. Institutional investors—insurance companies, trust companies, endowment funds, and so on—would have found it necessary to buy other permissible securities, thereby pushing up their prices. The sellers of these other securities would have been willing to exchange their industrial and utility bonds, mortgages, and other holdings for stocks, thereby adding to the speculative boom. Some individuals, attracted by the higher prices, might have been willing to sell their government bonds to obtain money for consumption purposes, but the probabilities are that the money would have been reinvested, say, in new issues of preferred stock or outstanding common stocks. Some corporations might have sold government securities, in which surplus was temporarily invested, to expand plant, or they might have bought other securities. Banks were holding government bonds in amounts deemed only sufficient for secondary reserves and probably would not have sold many even at higher prices. In short, the purchase of bonds by the Treasury probably would not have released as large a volume of funds as would have been taken from current consumption by the collection of insurance contributions. Just how much of the reserve would have gone into "productive" investments and how much would have been used in bidding up the price of outstanding securities is impossible to say. The lower interest rate resulting from the rise in government bond prices might have tended to expand plant and equipment, but the profit-making possibilities of investment trusts, holding companies, and other stock-multiplying devices would have invited some of the proceeds of government bonds into these channels. Or suppose the government had issued "special obligations" for the investment of the Insurance Trust Fund, using the proceeds to retire debt. What would the holders of the called bonds have done with the funds? The probabilities are they would have reinvested in either new securities or would have forced up the market for outstanding issues. If budgetary conditions in the future permit the government to use social security money to retire its own bonds, the capital market should become more fluid, even though the government's debt to the Insurance Trust Fund has been commensurately increased. So much for the collection of contributions and the investment of the funds. What of the liquidation of the investments and the payment of benefits?

The effect upon investment of liquidating unemployment insurance reserves turns largely upon the methods used. The fears in this connection are not well founded, for two reasons. First, the size of the reserve available for liquidation and, more particularly, the amount of the reserve that needs to be liquidated at

any one time will hardly be large enough to exert a depressing effect upon the government bond market. Second, when reserves must be liquidated, conditions are likely to be such that the sale of government bonds will be facilitated. What amounts to virtually a new government bond market is born of the depression. At about the time that the Unemployment Trust Fund would have to convert its bonds into cash to meet increased claims for benefits, there arises a desire, which sometimes develops into a mad rush, on the part of private business enterprises to improve their liquidity. This was the experience from the beginning of 1930 to the end of 1931. There is no intention of implying that the conditions will be duplicated in the future, but it seems reasonable to suspect that, given the proper incentives, the desire for "liquidity preference" will not diminish.

If the government uses contribution funds to meet current expenditures it avoids the levying of additional taxes immediately, but adds to the federal debt. The avoidance of additional taxes may facilitate investment; the rising government debt may retard it. But if the government itself is using the unemployment insurance funds for investment purposes, there is at that point, of course, an increase in invesment, but there may not be a net increase because of the possible adverse effects of such a policy upon other investors; again, the government's investing, depending largely upon its timing, may stimulate private investing.

The payment of benefits to the unemployed, in so far as they are not a substitute for other types of cash relief and do not diminish the demands of other consumers, will increase the demand for consumer goods which may or may not stimulate the capital goods industries, depending upon one's particular theory of the cycle. If the spending of benefits does increase the demand for capital goods, the flow of new investment to these industries as well as to the consumer goods industries may in time be facilitated, either through the application of savings or of bank credit. The fact that bank credit can be used to expand new investment suggests that the "state of mind" of those responsible for the demands for new investment and for its financing has something to do with the question.

Sizeable reserves, for a variety of reasons, probably will never be built in this country or anywhere else. Pay-as-you-go plans, made necessary by the inability to build a reserve, quickly degenerate into deficits with the coming of heavy unemployment. The typical situation may be one of borrowing to pay benefits, a procedure which may be preferable to reserve-building. When and if borrowing to pay benefits occurs on a wide scale in this country, as it did abroad, a new set of economic factors will appear which will help to determine the relation of the unemployment compensation program to production and investment.

H. V. ROELSE: It may be well to state the subject of my remarks in the form of a question: Is it likely that the social security program, as it now stands, will help or hinder the capital investments in industry which will be needed if full advantage is to be taken of new inventions and improvements in technical methods of production, so as to increase the country's output of goods and

services and thus to make lighter the burden of providing for those who become unemployed during business recessions and for those who reach retirement age?

As for the desirability of a more orderly and adequate program of providing for the unemployed and those who by reason of age should no longer be expected to work, there can be no question. It is clear, also, that the taxes imposed under the Social Security Act do not by any means represent an entirely new burden on the country.

Some important questions have arisen with respect to the social security program as adopted, however, which relate, not to objectives, but largely to the financial aspects of the program, especially the provisions for the accumulation of old age reserves. The taxes and accompanying accumulation of reserves were designed as a means of enabling individual workers to accumulate a definite claim on the production of the country at the time when they need it. The reduced spending power and higher prices which result from the social security taxes will tend to lower living standards of wage earners somewhat, unless, through further economies in processes of production, the effects of social security taxes can be more than offset and selling prices lowered instead of being raised. If the per capita output of the country could be increased as rapidly during the next few decades as it has been during the last few decades, the burden of the social security program could be carried with ease. But attainment of that objective will require taking full advantage of new inventions and more efficient plants and equipment, and that means large investments of capital. Conceivably the reserves accumulated under the social security program could be used to promote industrial efficiency, but is it likely that the present arrangements will promote such use of the reserves, even indirectly?

At first glance, one might be tempted to answer that the present plan for the accumulation of reserves will have no such effect, as the proceeds of social security taxes are being spent currently by the government. In fact, one might go further and claim that the social security taxes may to some extent take the place of individual savings which might otherwise be invested in industry, and may also have the effect of reducing accumulations of capital out of the earnings of industry. Such a position is probably an overstatement of the situation, but may have some elements of truth.

In discussing these questions, it is necessary, first of all, to differentiate between the unemployment insurance and old age retirement parts of the social security program. On the whole, it seems unlikely that the accumulation and disbursement of unemployment insurance reserves will have very material effects on business fluctuations, and, on balance, it seems likely that the influence will be toward stability rather than toward accentuation of business fluctuations.

The accumulation of reserves for old age retirement benefits is by far the more important aspect of the problem. The prospect is that the Old Age Reserve Account will grow steadily for over forty years, whatever its actual amount may be, whereas the Unemployment Trust Fund is expected to rise and fall with the level of business activity, never reaching any such amount as the Old Age Reserve Account is expected to attain. Since the Old Age Retirement Fund is to be invested exclusively in government securities and will not contribute directly to capital investments in industry, the question arises, will the program

have any effect on the accumulation of other funds for investment in industry or will it release other investment funds for such purposes?

It would not be surprising if the adoption of an orderly system of old age benefits weakened, to some extent, the incentive to saving in the lower income groups. As death benefits, as well as old age benefits, are provided for, many people might consider it less necessary to purchase insurance and to accumulate savings. While the savings of the low income groups apparently have never been a very important factor in the accumulation of capital, a reduction in such savings would, to some extent, reduce the supply of funds available for investment in industry through the insurance companies, savings banks, and other channels.

It is too early to draw any dependable conclusions from the available data as to the extent to which private savings are being affected by the social security program. The accumulation of funds available for investment in life insurance companies in dollar amount is now more rapid than ever before, but that is partly because of interest accruals on an increasing amount of principal; the annual rate of increase is now around 8 to 8.5 per cent as compared with an average rate of about 11 per cent in the twenties. Deposits in mutual savings banks are increasing much less rapidly than before the depression; in fact, the annual increase is now less than interest accruals. The increase in savings and other time deposits in commercial banks, however, has been more rapid than in savings banks. The additional funds that have become available for investment in all such institutions have been invested largely in government direct obligations and government guaranteed securities during the past four years, and there has been a fairly substantial diversion of savings during the past two years to direct investments in United States savings bonds; but this situation, as regards mutual savings banks and life insurance companies at least, has been regarded as a temporary one, pending curtailment of government spending, on one hand, and a revival of business borrowing through new security issues on the other hand.

When the federal budget is balanced, the employment of social security funds in government securities will result in the retirement of government securities held by banks and other investors, and thus will increase the supply of funds available for investment in corporation securities. It is questionable whether the commercial banks will make investments in corporation securities in amounts comparable to the volume of government securities retired. At least, commercial banks have not thus far shown much inclination to increase their investments in corporation securities.

On the whole, therefore, it seems likely that the supply of capital available for investment in industry will be increased only to a limited extent, even indirectly, as a result of the accumulation of social security reserves under the present terms of the Social Security Act. If this conclusion is correct, there would appear to be some danger that the social security program, if not modified, may tend, to some extent at least, to curtail current consumer and business spending, and fail to encourage the fullest possible development of new inventions and improved methods of production.

The principal alternative to the present Old Age Reserve Account is the pay-

as-you-go plan. Adoption of this plan would mean less taxes on employers, as well as employees, for some years ahead. The reduction in taxes on employers would probably be viewed chiefly as a reduction in costs of doing business, and therefore would more likely be applied to a reduction in selling prices than to an increase in the amount of net earnings "plowed back" into business organizations, and the reduction in taxes on wage earners would probably be used more largely to increase spending than to increase savings. Consequently this plan would probably result chiefly in some increase in the current production and consumption of goods, and it is questionable whether it would result even temporarily in a material increase in the supply of capital available for employment in industry. In later years, when the amount of retirement benefits to be disbursed is greatly increased, it would probably not be feasible to raise enough money through taxes on individual incomes and pay rolls to meet the disbursements of old age benefits, so that it might be necessary to resort to the general taxing power of the government. If the additional taxes were placed largely upon big incomes, reductions in the supply of funds available for investment in business enterprises might then result.

Another possible alternative would be to permit the operation of private pension funds which come up to specified standards and to permit private investment of the reserves in corporation securities as well as government securities. The difficulty of transferring reserves from one concern to another when individuals change their employment might be overcome by permitting the organization of pension plans for whole industries rather than for individual business concerns.

The main thing I wish to suggest is that it would be desirable to study ways by which the savings represented by social security taxes, especially the taxes levied in connection with the old age retirement provisions, could be used to improve the productive equipment of the country, and thus to promote further progress in raising standards of living generally, along with the establishment of a more orderly and adequate system of providing for those who by reason of age, or for other reasons, must be supported by the working population.

In his paper on the relationship between unemployment reserves and the business cycle, Professor Otto Nathan discussed the manifold effects of the collection and investment of the unemployment trust fund and suggested a type of future legislation which might be enacted for the purpose of smoothing out business fluctuations.

RATE OF CONSUMPTION

SIMON KUZNETS, *Chairman*

Papers by H. L. McCracken, Herbert D. Simpson, George Halm, and Walter Egle were submitted in outline before the main report on the subject by Albert G. Hart was made available. But in oral discussion cognizance was taken of Professor Hart's statement.

H. L. MCCRACKEN emphasized the significance of futurity in value theory and in the theoretical analysis of business cycles. A valid analysis of business cycles has been delayed by a prevailing acceptance of classical and neoclassical economics which tended to explain value by looking to costs and to the past and furnished the analysts with the background for Say's law of markets. The Austrian school shifted emphasis from cost to utility with value coming out of the present by the use of a sort of psychological hedonism. A much more realistic approach is provided by John R. Commons' volitional theory which treats value as "a mental appraisal in the present of future, expected uses of incomes." Since all value is futuritive the whole value process involves errors in judgment or discrepancies between present expectations and future realizations.

A vulgar version of neoclassical economics which emphasized the cost approach to value has been combined with the notion that prices should be high enough to cover the costs of the highest cost producer—the submarginal "little man." Both government and industry have fixed prices designed to cover such costs, thereby preventing the handing on to consumers the benefits of technical progress. But consumers have refused to sanction prices based on submarginal costs by refusing to buy at a rate that would sustain capacity production. The consequence has been a chronic state of apparent industrial overcapacity, and a growing variability in the fluctuations of investments.

Further analysis of consumer demand needs to be made, according to McCracken, but there is already available much evidence to indicate that the rate of consumption would approximate capacity production and decrease the fluctuations in investment if prices were more flexible and business sufficiently competitive to drive prices down as rapidly as technological improvements decrease costs.

HERBERT D. SIMPSON centered his discussion on the behavior of consumer demand in one important field, urban building. Basing his analysis upon the experience of the recent building cycle in Chicago, he pointed out the peculiar nature of the demand curve for residential and commercial buildings. Within certain more or less definite ranges of supply, the demand curve is distinctly elastic, responding to changes in supply with only slight changes in prices in either direction. Beyond this quantity of supply, the demand curve becomes distinctly inelastic, responding to changes in supply with more or less abrupt price changes. Chronologically this point appeared to have been reached, as indicated by rental curves, around 1925. The chronology, however, has no theoretical significance, since, under the impact of the same volume of building,

the change in type of demand curve would presumably have taken place in any other year.

The sustained elasticity of the demand curve up to this point, magnified by a high "acceleration" ratio from primary to derived demand, stimulated an unusual amount of construction, pushing the supply beyond the point where the slope of the demand curve changed abruptly from an elastic to an inelastic type. The diversion of subsequent consumer income from consumption to savings, which went largely into real estate investments, provided capital for further prolongation of overbuilding. The result was the enormous fluctuation in volume of construction from the period 1921-29 to the period 1930-33. While this fluctuation was magnified by credit inflation and speculative elements in the building field, at least one of the basic factors seems to lie in the abrupt change in the type of demand curve when subjected to varying quantities of supply.

GEORGE HALM pointed out that since changes in primary demand tend to be reflected in the field of investment through the combined effect of the multiplier and the acceleration principles, great caution should be exercised in any stimulation of primary demand lest it result in a rapid absorption of the lending capacity of the credit system and in a congestion that can easily become the starting point for a cumulative process downward. He indicated that the attempts by governmental agencies to augment the volume of purchasing power in the hands of ultimate consumers, either by direct or work relief or public works, are especially susceptible, because of political pressures and the greater importance ascribed to the visible primary effects than to the elusive secondary effects, to the danger of initiating too rapid and sudden an increase in primary demand. Obviously, cautious and careful timing of such priming of the pump of consumers' demand is needed if its secondary and tertiary effects on the economy are to result in such an expansion as would still allow a sufficient supply of investable funds and a cost-return situation which would stimulate private business to respond in its own turn and contribute to the prolongation of the period of economic prosperity.

WALTER EGLE directed his remarks to Dr. Hart's paper. His understanding of Dr. Hart's analysis of anticipation was that it contributed to the explanation of the sustained movement of the business system in a direction of expansion or contraction, but (as Dr. Hart admitted himself) the bearing of the analysis upon the turning point or upon the changes in the direction of economic movements appeared indeterminate. The question was whether such an explanation could really be attained without a greater consideration than was allowed for in Dr. Hart's paper of the objective factors determining costs to the business enterprises. Professor Egle also discussed the possibilities of a policy of stabilizing money wage rates. It was his opinion that the advocates of the policy of making all costs, or even prime costs only, flexible, were asking for the impossible; and that even if the attempt were successful, it is very doubtful that the result would be a stabilization of the volume of economic activity. Under these conditions, the question may be raised whether a greater advantage could not be secured from an attempt to stabilize the volume of wage payments.

This, if attained, would result in stabilizing the volume of consumption and would have a moderating effect on the fluctuations in investment.

In the discussion from the floor K. E. Boulding summarized his observations of the English farmers' attitude towards the pig cycle. He indicated that the farmers are aware of the existence of this cycle, but not of its duration; that the general counsel to those who want to make money is to stay in "pigs" all the time; but that, nevertheless, there was a substantial group of producers who rush into the industry when prices are high, i.e., exactly at the wrong time, and contribute to the amplitude of the swings, while there seemed to be no group of superintelligent producers who would begin the productive process at the moment of lowest prices, thus reaping the gains of peak prices.

The chairman raised the following questions: (1) How widespread is the practice of anticipation analyzed in Dr. Hart's paper; and especially how prevalent is the practice among the going concerns of revising their long-time anticipations in the light of short-term changes? (2) What is the influence of the growing monopolistic organization of industry on the connection between short-term changes in the rate of consumption and short-term fluctuations in investments? (3) Where, precisely, should the line be drawn between consumption and investment, with particular reference to consumers' durable commodities and to the kind of ostentatious, consumption building that is often engaged in by business enterprises?

In concluding the discussion, Professor Hart pointed out that the analysis of anticipation presented in his paper was in direct line of continuation of the orthodox theoretical approach in so far as it assumes rational calculation on the part of the business enterpreneurs; and that while undoubtedly such rational calculations are not the universal practice, they are sufficiently important to justify their assumption in a valid analysis. He also indicated that entrepreneurs do tend to revise their long-term anticipations in the light of short-term changes; and agreed that there is need for further analysis of the peculiarity of the responses of monopolists to unfulfilled anticipations or to changes in the rate of consumption. Furthermore, the analysis presented in this paper was not applied to the turning points, primarily for lack of space; but this aspect has been treated in his writings elsewhere.

DURABLE CONSUMERS GOODS

CALVIN B. HOOVER, *Chairman*

The following papers were presented at this round table: Albert Haring, Installment Selling of Durable Consumers Goods; Norman J. Silberling, Some Aspects of Durable Consumer Goods Financing and Investment Fluctuations; F. Leslie Hayford, The Flexibility of Replacement Demand for Durable Consumers Goods. The chairman presents his summary of the first two papers, together with the general conclusions, and Mr. Hayford's own digest of his paper.

PROFESSOR HARING'S conclusions may be summarized as follows: The total of installment credit sales has been estimated at 6.4 billion dollars in 1929, at 3.6 billions in 1935, and at 4.5 billion dollars in 1936. The percentages of installment sales to total retail sales for the same years were 13 per cent, 11 per cent, and 12 per cent, respectively. Durable consumers goods accounts for the greater portion of these installment sales, but the sale of clothing and "soft" goods on installment payments has been increasing. On account of the limited repossession possibilities of soft goods, this trend offers serious problems.

The importance of installment selling in retail sales of durable consumers goods is indicated by the fact that in 1935, 59.9 per cent of the sales of motor vehicle dealers handling new cars were made upon installment credit, that 54.9 per cent of the sales of household appliance and radio stores were installment sales, and that the comparable figure for furniture stores was 48.7 per cent.

While installment selling no doubt made possible larger sales of durable goods than otherwise would have been possible and thus made possible lower costs through large-scale methods of production, the improvement in the standard of living thereby obtained is offset in some degree by certain disadvantages. Installment sales fluctuate more rapidly than book credit sales, which in turn fluctuate more rapidly than cash sales. In the automobile industry the number of cars sold upon installment credit as percentage of total sales was 63 in 1929, 63.2 in 1930, 61.3 in 1931, 49.7 in 1932, 56.8 in 1933, 56.6 in 1934, 60.8 in 1935, and 59.8 in 1936. Data for similar commodities likewise support this conclusion.

In spite of the fact that the records of the large installment finance companies during the depression were excellent, many consumers must have depleted their reserves in order to meet installment payments. The advantages of installment selling appear, indeed, to outweigh the disadvantages only provided that installment selling is operated on sound lines. The soundness of installment selling is largely determined by the amount of the down payment required, the length of the installment period, the character of the contracts, and the cost to the consumer.

The evidence indicates that the lower the percentage of the down payment to the price of the commodity purchased, the greater will be the percentage of repossessions. This has been shown, for example, in the studies of Mr. Ray Fox, of the General Motors Acceptance Corporation, of the experience of

G.M.A.C. in selling refrigerators. Good business judgment would appear to require a down payment of 10 per cent or more. In many department stores the down payment is even less than 10 per cent. Some less durable consumers goods, such as automobile tires, are sometimes even sold without any down payment. Evidence likewise indicates that the longer the period over which installments are paid, the greater the number of repossessions.

Standard terms in installment selling of automobiles are a down payment of not less than 33⅓ per cent and an installment period not exceeding twelve months. It is disturbing to note that actually three-fifths of automobile paper in 1936 ran over twelve months and that one-quarter of this installment paper was based upon substandard down payments.

The type of contract used in connection with the sale of durable consumers goods, such as furniture, is sometimes unfair and burdensome. This is particularly true of the "add-on" contract.

The cost of installment credit is high. About the best terms available make the theoretical interest rate between 11 and 12 per cent. This rate is available in the automobile industry. An examination of the terms offered by eleven stores yielded nine cases where the interest rate was over 50 per cent and one prominent national brand sold in a manufacturer-owned store was sold on terms which yielded an interest rate of over 100 per cent.

Admitting that consumers will use credit of some sort in purchasing durable consumers goods, installment selling seems highly advantageous when operated upon sound principles. Among such essential policies would most certainly be included: (a) substantial down payments from 10 to 33⅓ per cent, depending upon the commodity, (b) contract periods rarely exceeding one year, (c) eliminating poor risks to lower average rates, (d) limiting the security to merchandise alone (eliminating wage assignments and eliminating add-on contracts), (e) simplifying and standardizing contracts which give the buyer a fair deal, and (f) recourse paper only (i.e., making the dealer responsible for uncollectible installment paper which has been discounted).

PROFESSOR SILBERLING'S conclusions may be summarized as follows: The financing of durable goods of nonproductive character includes a minor part of public construction activity, the financing of private residential building, and installment financing. It is the second of these types which appears to be responsible for major fluctuations of long duration and extreme intensity. These fluctuations transmit their influence to other phases of the capital market and appear to account for much of the instability of interest rates other than that produced by war conditions.

Private residential building is characterized by violent fluctuations or waves of expansion and contraction, which is in marked contrast to the continually climbing spiral of public financing. The evidence indicates that the major cyclical fluctuations have a fairly regular period of about eighteen years. The tops of the major booms may be ten to twenty times the bottom levels in terms of total volume. In individual areas in the middle twenties, volume at the peak of the building boom was 150 times as high as at the bottom of the depression. In Miami, Florida, the peak was 500 times as high as the bottom.

Some preliminary data may emphasize the effect which these fluctuations may have upon cyclical changes in the general capital market and upon the rate of interest. In 1934 one survey shows that 58 per cent of urban, owner-occupied homes were mortgaged, and 43 per cent of rented properties. The rate of interest prevailing in 1934 was between 6.5 per cent and 7 per cent. In 1935 the total mortgage debt on urban homes was roughly 17 billion dollars, which is the largest single classification of long-term debt in the United States. It is about equal to the combined total of railway and industrial debt.

What are the essential characteristics of the typical urban home building cycle of activity? What initiating factors may be detected? What internal factors accentuate the movement up and down, once it is set in motion? A war, involving price inflation is generally detrimental to building activity. During such a period the growth of population accumulates an unsatisfied demand for housing. The cessation of hostilities consequently brings forth a renewed demand for housing accommodation and a new building cycle may be generated.

The movement of population is also an "independent" factor in initiating major housing cycles. This has been an important factor in such sections as California, Florida, and parts of Michigan. Local or general changes in the rate of population growth may also influence the demand for housing.

The residential business cycle, once set in motion, is subject to powerful forces of instability. The speculative character of subdivision activity, the operation of land syndicates, the operations of promotional builders—all these make for instability. A considerable proportion of housing construction is undertaken on borrowed money and with a slender equity. The system has operated for years on the basis of capital loans which create enormous leverage and subject the entire structure to the danger of collapse as soon as some minor unfavorable factors appear. It is common in the mortgage field to refer to the historical practise of "ten-year" loans. Many loans are for periods of five or even three years. The average equity of the borrower has been estimated at 20 per cent. A high proportion of first mortgages has had no provision for amortization. Borrowers seem generally to have failed to realize that they must save something out of current income if they are ever to pay off the indebtedness incurred. Instead they have merely taken the chance that somehow or other they would be able to obtain several thousand dollars in a rather hazy distant future and have been content if they were able to pay interest.

The usual term of ten years for home financing makes it almost certain that difficulties will develop about ten years after the initiating factor has begun to create a housing boom. Values and rentals begin to weaken and this starts a downward spiral of foreclosures. Values decline until distressed properties can be bought for less than cost of construction. This is accentuated by rigid price and wage structures in the building industry.

The funds for financing building booms have been pumped into circulation through pressure. Funds have been obtained by lending institutions through promises to pay interest rates above the general market rate for long-term capital. The volume of funds thus attracted could only be loaned by taking advantage of marginal cases and slender equities.

The system of financing residential construction is now in process of recon-

struction through the activities of the federal government. Nevertheless the defect of an insufficient period of amortization of loans has not been adequately remedied. In view of the average worker's ability to pay rentals for housing accommodation it appears likely that the revival of investment in this field will depend upon the development of rental properties by large-scale enterprise and perhaps to a minor degree upon low-cost housing created as a part of governmental consumptive wealth.

In conclusion, it may be said that to the extent that consumer-type saving involved in the payment for durable consumption goods is spread over a long period and involves a substantial interest charge, there is a tendency for consumption in other directions to be curtailed in order that repayment may be attempted. It is in the building cycle that this effect is probably most important. Just as the initial flow of capital provides a special stimulus to general consumption, so the impairment of consumption in other directions as the building cycle advances brings about the initial curtailment of total spending and employment, which, as it gathers momentum, curtails the income of the very mass of people who are endeavoring to save.

F. LESLIE HAYFORD: The common explanation of the great amplitude of cyclical fluctuations of effective demand for durable consumers goods is that people do without most kinds of such goods when their incomes shrink. But doing without is not necessary for the majority of those individuals who already possess goods of this type. Continued enjoyment of use for a considerable time is possible, and all that need be foregone is as rapid replacement as has been customary. Deferment of replacement of course reduces current effective demand. And it is the postponability of replacement which makes the market for durable consumers goods subject to wide variations. For when a durable consumers good has come into quite general use, expansion of the number of its users becomes more and more limited and replacement demand becomes much more important than new user demand.

The rôle of replacement demand is well illustrated in the passenger automobile industry. Since the beginning of this industry 56,000,000 passenger automobiles have been bought by consumers in the United States, of which approximately 32,000,000 have passed out of existence, leaving about 24,000,000 in use. This is the largest number of cars in use that this country has ever had. So that it is clear that of the 56,000,000 cars sold since the industry's inception, 32,000,000 have taken the place of cars which have been scrapped. In other words, nearly 60 per cent of the industry's domestic passenger car business has come from the replacement demand. In recent years, of course—in fact since the middle twenties—replacement demand has been of much greater relative importance.

If replacement proceeded at an even rate, the total effective demand would fluctuate much less widely than it does; that is, if cars were scrapped year by year at a rate which represented a constant average life-span and regularity of mortality rates and were immediately replaced, there would be little fluctuation in the effective replacement demand, and changes in new user buying would

virtually determine the amplitude of fluctuations of the total effective demand. This of course is not what happens. Scrappage and replacement buying do not follow a regular course, but are subject to great cyclical changes.

During the latter half of the twenties, passenger car scrappage did proceed at a rather even rate, with car life averaging somewhat less than the seven-year life arrived at by Professor C. E. Griffin in his study of Michigan registration data for the years 1923 and 1924.[1] If average car life had remained constant since the time of Professor Griffin's study and if the "death rates" developed by him had prevailed, scrappage would have been somewhat less than it was from 1925 to 1930, but it would have been much greater than it proved to be during the years following 1930. In fact, in 1933 and 1934 the actual number of cars scrapped was only about half as large as it would have been on such a basis. This drop in the rate of scrappage, and consequently in the rate of replacement, quite largely accounts for the great decline in passenger automobile sales during the depression. And an increase in the rate of scrappage and replacement after 1934, together with the resumption of new user buying, which had practically ceased during the worst of the depression years, caused the rapid and marked recovery of the automobile industry in 1935, 1936, and 1937.

That the sharp decline in effective demand during the depression was due chiefly to deferred scrappage and deferred replacement rather than to a great foregoing of automobile usage is clear from the car registration data. The number of passenger automobiles in use apparently declined less than 10 per cent; that is, from 21,800,000 cars in 1929 to approximately 20,000,000 in 1932 and 1933. Obviously, the postponement of scrappage by extending the serviceable life of cars made possible the continued enjoyment of automobiles by something like nine-tenths as many persons as in 1929 without the necessity of continued replacement buying at anything like the rate which had prevailed in the pre-depression years.

If, then, replacement demand is as important in the durable consumers goods industries in general as it obviously is in the automobile industry, the degree of flexibility of usable life of these goods will have a highly significant bearing upon fluctuations in the effective demand for them. The usable life of different kinds of durable consumers goods varies greatly; but under the spur of necessity or desire all of them can be made to last longer than has been customary. A special type of flexibility of demand is thus introduced by the flexibility of usable life which renders postponement of replacement without deprivation of use not only possible but (for a time, at least) no great hardship.

Postponement of replacement will of course occur when consumers' incomes shrink. But there are other conditions which may cause a postponement of replacement and by so doing initiate a drop in consumers' incomes which by its cumulative force may bring about a business depression. One of these conditions is the existence of a great burden of consumers' debt, the payment of which will make it impossible to apply all of current income to the current purchase of goods. Or the feeling of the necessity or desirability of saving, either for a

[1] C. E. Griffin, *The Life History of Automobiles,* Michigan Business Studies, Vol. 1, No. 1, February, 1926.

specific purpose or merely as a general safeguard against contingencies, may induce the consumer to use the old car or the old washing machine longer than usual.

But when a decline in consumers' incomes has set in, and employment is decreasing, uncertainty as to the future becomes a potent factor in causing deferment of replacement of durable consumers goods, not only on the part of those whose incomes already have shrunk, but also on the part of many whose incomes have not yet been reduced but who are fearful that they may be. Lack of confidence then causes considerable curtailment of buying, without (at least for quite a time) subjecting the great mass of consumers to the necessity of giving up the enjoyment of the durable consumers goods to which they have become accustomed. In our present-day civilization—with its means of rapid communication, its radio facilities for mass appeal and for the dissemination of news, opinions, and propaganda, its many public interpreters of and commentators on happenings in the business and political fields—changes in public confidence seem likely to occur more quickly and to be more pronounced than formerly. Lack of confidence now tends to develop suddenly and spread rapidly, bringing about fluctuations in consumer buying which are made wider by the increased relative importance of durable consumers goods with their great flexibility of replacement demand.

Because of this flexibility of replacement demand, it may be that the amplitude of business cycles tends to become greater as the ownership of durable consumers goods becomes more general. But the ownership of such goods becomes more general as the material standard of living rises. Perhaps, then, one of the costs of a high material standard of living is the endurance of pronounced fluctuations of business.

The general conclusions of the round table may be stated as follows:

Evidence indicates clearly enough that fluctuations in investment may be materially affected or even initiated by changes which take place in the demand for durable consumers goods. The experience of the automobile industry shows that fluctuations in replacement demand are basically affected by the fact that consumers do not have to choose between replacement and doing without but instead the choice is between buying a new car and using the old car longer. This is proved by the fluctuation in the rate of scrappage of cars during the depression as compared with predepression figures. The importance of installment selling as a cause of fluctuations in consumer demand is difficult to estimate. It appears inevitable, however, that installment selling must add somewhat to instability of demand. Too small down payments, too long periods for payment of balances due, and other unsound practices accentuate this instability. The tremendous relative weight of urban housing mortgage indebtedness renders fluctuations in the demand for this type of durable consumers goods of fundamental importance. The data indicate that the extremely wide fluctuations in housing construction are affected by the customary period during which residential mortgages run. Fluctuations in investment and in the interest rate are greatly influenced by these fluctuations in residential building activity.

WAGE POLICIES

FRANK D. GRAHAM, *Chairman*

The speakers at this round table dealt chiefly with the following subjects: Carroll R. Daugherty, "The Relation of Minimum Wage and Maximum Hour Laws to Rates of Investment, to Employment, and to Labor Income"; Paul M. Sweezy, "Wage Policy and Investment"; Lorie Tarshis, "Wage Reductions and Investment."

CARROLL R. DAUGHERTY: Because of the variety and complexity of the factors affecting rates of investment, it is impossible to show inductively the effects of wage rate and work period changes on investment rates, except in so far as one might obtain reliable data from enterprisers and investors themselves with regard to their reactions to such changes.

Deductively, however—without an assumption of either perfect competition or complete monopoly but on the assumption (a) that all other investment-affecting factors, such as price changes, are held constant; (b) that enterprisers and investors have certain notions or attitudes concerning suitable rates of return; and (c) that, as the owners and controllers of enterprise, they react to cost-increasing conditions in ways intended to make possible the realization of their standards of investment returns—one may reach the following conclusions.

In general, a substantial, arbitrary increase in wage rates or reduction in work periods ("arbitrary" is so defined as to mean "unjustified, in enterprisers' minds, by market conditions") so dims enterprisers' profit prospects as to stimulate them to introduce new labor-saving, cost-reducing machinery (with someone's investment funds), the net effect of which is to protect profits and to increase the relative employment of investment funds and capital equipment and not to increase the average employment and average relative income of labor. Thus, no matter how socially desirable it may be to increase relative average worker income and employment, such an objective is not generally attainable through substantial, arbitrary wage rate increases and work period reductions under the present economic system. Even assuming that one of the major causes of depression is lack of balance between consumer buying power and savings (brought on perhaps by inequalities in income distribution), one cannot say that recovery from depression can be achieved by reversing the process, i.e., by arbitrarily raising wage rates. A wage rate increase is an added cost of production more immediately than it is added purchasing power. And added costs of production have the deflating effects noted above. The only way purchasing power can be immediately increased without immediately raising production costs is through government expenditure. And budget balancing requires that eventually this credit must be stopped and repaid through cost-increasing, profit-dimming taxation. If this general analysis is correct, the further conclusion is perhaps justified that some other form of economic organization would be better adapted to the realization of such broad social objectives.

In particular, minimum wage and maximum hours laws tend to discourage

investment of funds in new plants in the highly competitive, little mechanized industries in which existing wage rates are low and labor costs a relatively large proportion of total production costs, while they tend to encourage investment of funds in the semimonopolistic, highly mechanized industries in which all or most of the wage rates are already above the law's minimum and in which labor costs are a relatively small part of total costs. Enterprisers who stay in the first kind of industry are of course stimulated to introduce labor-saving equipment with investment funds. But they may have difficulty in obtaining the funds, and some enterprisers in this type of industry may go out of business. In any case it is to be doubted that the operation of such laws would result in general net increases in employment and average relative labor income. This conclusion is of course not a valid argument against the use of modest minimum wage and maximum hours laws to prohibit exploitation of workers in sweated industries under the present economic system, especially if there is provision for the vocational retraining of the unemployed workers.

PAUL M. SWEEZY: The problem of the effect of a general change in money wages is now generally attacked by studying the workings of a highly simplified model economic system. The most usual models are variations of a basic type, the main characteristics of which are as follows: (1) perfect competition, (2) wage costs the only variable costs, and (3) a closed system. By appropriate additions in the way of expectations it is possible to reach the conclusions: that a general wage cut will increase investment and employment, or that it will leave investment and employment unchanged, or that it will decrease investment and employment. All of these conclusions may be logical according to the varying assumptions, but their relevance to the problem of wage cuts in the real world is not great.

It is instructive to analyze other models which differ widely from the type already mentioned. Let us suppose, for example, that all employers are monopolists or, as it would probably be more accurate to say, oligopolists. In such circumstances the demand curves which are relevant to behavior are those which exist in the heads of the entrepreneurs, and they are made up after a full calculation, frequently more or less unconscious, of the probable reactions of more or less distant rivals. I am prepared to argue that a very likely shape for such demand curves will show a "corner" at the prevailing price. The entrepreneur in other words is likely to regard price cutting as self-defeating since it provokes similar action on the part of rivals (the curve is inelastic for downward movements of price); and he is likely to think that any business which he may drive away by raising his price will be eagerly absorbed by his rivals (the curve is elastic for upward movements of price). Now the curve which is marginal to such a demand curve, of course, has a discontinuity at the prevailing price, falling from a positive to a negative value. If the effect of a wage cut is in the first instance not materially to change the volume of expenditure and hence to leave the position of demand curves pretty much unaffected, it is evident that it will be accompanied by no increase in employment at all or, in so far as the employers are more prone to saving than their workers, the effect will tend to be adverse. This can be put otherwise by saying that

the marginal revenue productivity of workers for increases in employment is negative.

In such an economy it is evident that shifts in the volume of employment will be initiated altogether by shifts in demand curves and not by shifts in cost curves; that is to say, by shifts in the volume of expenditure. Changes in money wages, since they are not likely to have any very large effect on the volume of expenditure one way or the other, are likely to have little influence on the volume of employment. On the other hand, those things which affect the volume of expenditure (e.g., the opening of new fields for investment, public works, large-scale foreign lending, armament, war, and the like) are the things which will have a direct effect on the volume of employment; and the latter in turn, it seems to me, is the decisive factor in the level of money wages. Employers will always cut wages to save money if they can; and they will raise them when they have to. Low and falling employment allow them to do the first and high and rising employment force them to do the second.

I believe—it may be no more than a hunch—that the real world is very much more like the model which I have just analyzed than the more usual models mentioned previously. Believing this, I conclude that to inquire how wage policy affects investment is in the main to put the question backwards, and that any one interested in increasing the volume of employment and investment would do well to regard the problem of wage policy as distinctly of secondary importance.

LORIE TARSHIS: The amount of investment (suitably measured) depends upon the level of interest rates and upon the yields that entrepreneurs expect on new capital equipment. A general reduction in money wages involves a reduction in labor costs and so, to that extent, an increase in anticipated yields. But this effect is offset, at least partly, by a decline in money expenditure resulting from a fall in labor's money income.

In an economy where inflexible prices are rather common, the decline in expenditure has one further serious consequence. It occasions an increase in surplus capacity with respect to existing equipment in those industries which maintain prices at their old levels. In at least three of the industries which in the United States are important as buyers of new capital—railroads, public utilities, and housing—the prices of the services provided are quite inflexible.

It is quite true that the general reduction in money wages might be responsible for an increase in the yield of existing capital equipment, but because of the increase in excess capacity the yield anticipated from new capital would be lowered. This would discourage investment. In so far as the prices of new investment goods are themselves stabilized, investment is even further discouraged.

Discussion from the floor was initiated by Mr. A. P. Lerner, of the London School of Economics, who pointed out that there is a simple and a sophisticated form of the old argument that an increase in wages will diminish investment and employment. The simple form applies to the whole economy an argument that is valid only when applied to a part of it. If wages are raised in a small

part of an economy, costs in that sector are raised. There is also (initially) an increase in demand but this, being spread over the whole economy, can reasonably be neglected as insignificant. Costs rise relatively to demand and there will be a decrease in the output of the affected sector. If wages are raised in a large sector of the economy, the repercussions on demand can no longer be completely ignored; but it can be expected that only a part of the increased income (which *is* the increased cost) is spent on the output of this sector of the economy so that there is again a tendency for output to shrink. But if wages are raised over the whole economy, the presumption that demand increases less than cost disappears. The simple form of the old argument thus commits the fallacy of composition.

The sophisticated form is as follows:

1. The rise in wages will bring about a rise in demand and in money prices and incomes.

2. If there is no change in people's attitude to liquidity (i.e., the rise in prices does not tend to drive them out of money into goods), there will be an increased demand for money to hold.

3. If there is no change in the amount of money (i.e., if the monetary authorities regard it as improper to satisfy the increased demand for cash and bank balances), there will be a rise in the rate of interest.

4. If there is no expectation of any further rise in prices, this will diminish the rate of investment.

5. If there is no increase in the propensity to consume, there will be a decline in real demand and in profits.

6. When entrepreneurs decide that this decline in profits is permanent they will diminish output and employment.

The thesis put forward by Drs. Sweezy and Tarshis amounts to nothing more than the assertion that it is dangerous to glide over the whole of this (abridged) series of stages in the process leading from a rise in wages to a decline in output, because there is a high probability that the process will be arrested at some of the intermediate stages for periods of time sufficiently long for the further effects to be swamped by new developments that are certain to arise in the real world. In these intermediate stages there is no reason to expect a decline in output. Rather the reverse, for in so far as there is a shift from the (real) earnings of specific instruments of production to earnings of labor as a result of the change, this is likely to bring about an increase in the propensity to consume and in demand, profits, and output, while the adverse effects on the rate of interest and on investment may be held up indefinitely.

Dr. Mordecai Ezekiel raised the question whether reductions in wage rates, accompanied by an increase in the number of hours worked and in total wage payments, might not have effects quite different from reductions in wage rates not so accompanied.

Dr. Lubin suggested that the effect of wage cuts might vary according to the phase of the cycle in which they were introduced.

Professor Walter A. Morton and Drs. Vickery and Armstrong also participated in the discussion.

MINUTES OF THE BUSINESS MEETINGS OF THE AMERICAN ECONOMIC ASSOCIATION HELD IN ATLANTIC CITY, NEW JERSEY, DECEMBER 29 AND 30, 1937

The first business meeting of the American Economic Association was held at 9:00 A.M., December 29, 1937, in Chalfonte-Haddon Hall, Atlantic City, President Sprague presiding.

The minutes of the meeting of December 30, 1936, were approved as printed in the *Proceedings of the Forty-ninth Annual Meeting*, page 296.

The following reports were read and approved:

1. The Secretary. (See p. 162.)
2. The Managing Editor. (See p. 166.)
3. The Treasurer. (See p. 168.)
4. The Auditor. (See p. 171.)
5. The Finance Committee. (See p. 169.)

The President appointed Harry D. Gideonse of the University of Chicago, Tipton R. Snavely, of the University of Virginia, and Z. Clark Dickinson, of the University of Michigan, as a Committee on Resolutions.

J. M. Clark, our representative to the American Council of Learned Societies, referred the members to the printed report of the activities of the Council for the current year.

The Secretary read, for Robert Calkins, chairman of the Committee on Reprints, the report of that Committee. The report was accepted and the Committee discontinued. (See p. 176.)

The following informal report of the Joint Committee on Statistics of Income was read by the Secretary in the absence of J. F. Ebersole:

> The Joint Committee on Statistics of Income has held no formal meetings during this calendar year, but the members have corresponded with Dr. George C. Haas, Director of Research and Statistics in the Treasury, during the year. Certain of his problems have been submitted to the members of the Committee, and individuals have replied with such suggestions as they thought it desirable to make. During the year Messrs. W. L. Crum and Simon S. Kuznets, who are members of the American Statistical Association half of the Joint Committee on Statistics of Income, have been devoting a considerable amount of their own time in the form of personal attendance at the Treasury Department. During the period of such personal attendance, it did not appear necessary to have a meeting of the Joint Committee. Professor Crum has now returned to Harvard for full-time work, and I recommend that the Committee be continued another year, and any unexpired appropriation be continued and not canceled.

The report was accepted, the Committee continued for another year, and the unexpended appropriation transferred to 1938.

J. M. Clark gave an oral report for the Committee on Permanent Secretariat. The President stated that he believed the matter should receive further consideration by the Executive Committee before being put to the membership for vote.

Adjourned.

The second business meeting of the American Economic Association was held at 9:00 A.M., December 30, 1937, in Chalfonte-Haddon Hall, Atlantic City, New Jersey, President Sprague presiding.

The minutes of the meeting of December 29, 1937, were read and approved.

The following report of the Committee on Resolutions was read and approved:

WHEREAS, The members of the American Economic Association, meeting in the fiftieth annual session, December 28-30, 1937, desire to express appreciation to those who have been chiefly responsible for the success of the conference; therefore be it

Resolved, That the Secretary be instructed to convey the thanks of the members of the Association for the excellent preparation made for the meeting and for the way in which the details had been handled throughout the session to Ernest M. Patterson, of the Committee on Local Arrangements, to the press for the publicity given to the program and activities of the Association, and to the others who participated in making the meeting a success; and be it further

Resolved, That we extend to the participants in the program our appreciation for their contributions to the deliberations of the Association; and be it finally

Resolved, That we extend to the management of the Chalfonte-Haddon Hall our thanks for the facilities placed at our disposal and for the co-operation which aided so greatly in insuring the success of our meetings.

HARRY D. GIDEONSE, *Chairman*
TIPTON R. SNAVELY
Z. CLARK DICKINSON

For the report of the representatives to the Social Science Research Council, see p. 178.

The Secretary presented the certification of election:

In accordance with the by-laws on election procedure, I hereby certify the results of the recent balloting, and present the reports of the Nominating Committee and the Committee on Elections.

The Nominating Committee, consisting of Ernest L. Bogart, University of Illinois, chairman; William A. Brown, Brown University; Raymond T. Bye, University of Pennsylvania; Henry A. E. Chandler, New York City; I. Leo Sharfman, University of Michigan; and Arthur W. Marget, University of Minnesota; presented to the Secretary the following list of nominees for the respective offices:

For President

Joseph S. Davis
Alvin H. Hansen

For Vice-Presidents

Frederic B. Garver
Frederick C. Mills
William A. Paton
Joseph A. Schumpeter

For Executive Committee

Benjamin M. Anderson, Jr.
Elmo P. Hohman
Merlin H. Hunter
Mabel Newcomer

For Social Science Research Council Representative

Simon Kuznets
Roswell C. McCrea

The Committee on Elections prepared biographical sketches of the various candidates and ballots were distributed early in November. The canvass of the ballots was made on December 20, 1937, and the results were filed with the Secretary.

From the report of the Committee on Elections I have the following information:

Number of envelopes without names for identification	26
Number received too late to count	9
Number of defective ballots	..

Number of legal ballots	1,214
Number of returns from the mail ballot	1,249

On the basis of the canvass of the votes cast, I certify that the following persons have been duly elected to the respective offices:

President (for the term of one year)
Alvin H. Hansen

Vice-Presidents (for the term of one year)
Frederic B. Garver
Frederick C. Mills

Members of the Executive Committee (for the term of three years)
Benjamin M. Anderson, Jr.
Mabel Newcomer

Representative to the Social Science Research Council (for the term of three years)
Simon Kuznets

Adjourned.

REPORT OF THE SECRETARY OF THE ASSOCIATION FOR THE YEAR ENDING DECEMBER 15, 1937

The following report includes the minutes of all meetings of the Executive Committee held during the year.

1. Minutes of the second meeting of the 1937 Executive Committee:

The second meeting of the Executive Committee of the American Economic Association for the year 1937 was held at the Harvard Club, New York City, February 20, 1937, at 9:00 A.M. There were present: President Sprague, presiding, and Messrs. Bell, Brown, Clark, Dewey, Graham, Millis, and Mitchell.

Voted: To approve the minutes of the December 29, 1936, meeting as printed in the *Proceedings* of the 1936 annual meeting, page 301.

Voted: That the resignation of Mr. C. H. Crennan as a member of the Finance Committee be accepted and that Mr. Roy C. Osgood be appointed to the vacancy thus created.

The Secretary was instructed to communicate to Mr. Crennan the Committee's thanks for his long, faithful, and effective service to the Association.

The Secretary reported that he had notified the Director of the Census of the action taken at the business meeting of the Association on Decembr 30, withdrawing from participation on the Joint Census Advisory Committee.

Voted: To continue the Committee on Reprints, with the request that the Committee report at the December meeting.

In the absence of A. S. Johnson, J. M. Clark reported for the Committee on Permanent Secretariat. Professor Clark asked that the Committee be continued and that it be permitted to report at the December business meeting a different form of proposal from that recommended last year.

Voted: To authorize the expenditure of not to exceed $300 for mimeographing round table papers.

Discussed the election procedure of officers of the Association and the franchise of members whose dues are paid by institutions. No action was taken.

The Secretary read a communication from L. C. Marshall, representative of the Business Research Council, explaining why no report was forthcoming either at the annual business meeting or at the spring meeting of the Executive Committee. A report is expected at the next business meeting.

The Secretary made an informal report on the meeting of the association secretaries and of the sessions of the American Council of Learned Societies held in New York, January 28 to 30, 1937.

Voted: To approve the request of D. R. Dewey for a slight increase of appropriation for office salaries.

Voted: To select Atlantic City, New Jersey, as the place of meeting for the next annual convention, the dates to be December 28, 29, and 30.

Voted: To appoint E. M. Patterson as Association representative on the Committee on Local Arrangements for the annual meeting.

Professor Sprague announced the selection of the members of a program committee: A. H. Hansen, F. S. Deibler, E. S. Mason, and the Secretary.

Adjourned.

2. The minutes of the third meeting of the 1937 Executive Committee:

The third meeting of the 1937 Executive Committee was held at the Chalfonte-Haddon Hall, Atlantic City, at 5:00 P.M., December 28, 1937. There were present: President Sprague, presiding, and Messrs. Bell, Clark, Dewey, Goodrich, Graham, Hansen, and Mitchell.

The minutes of the February 20, 1937, meeting were read and approved.

The Secretary reported that the payment of five hundred dollars to the Higgs's bibliography, authorized at the December 29, 1936, meeting, had been made. The question of policy with regard to accumulation of reserve funds provoked suggestions involving expenditures which might prove more useful in conducting the activities of the Association. Dr. Dewey called attention to the desirability of conferring with his Board of Editors. Such a conference could not be held unless expenses were borne by the Association. Professor Hansen considered it desirable that conferences be held not only by the members of the Program Committee, but, where main papers and round tables are resorted to, con-

ferences of those preparing main papers and the chairman of round tables. One of the weaknesses of this past year's program was the lack of co-ordination which might have been accomplished by this means. Here again travel expenses are involved. The Secretary reported that Professor Ernest L. Bogart, chairman of the Nominating Committee, had asked for a conference to discuss nominees for the offices of the Association.

Professor Sprague submitted a memorandum from Dean Donham describing progress made on the economic bibliography and asking that the American Economic Association subscribe three thousand dollars additional to that project (to bring about the completion of Volume III—1500 to 1700). The Association has committed itself to pay five hundred dollars more in 1938. It was voted to contribute one-third of the remaining twenty-five hundred dollars on condition that some other American organizations, e.g., American Historical Society or the American Academy of Political and Social Science, subscribe the other two-thirds.

It was voted to appoint John E. Walker as council for the Association for a term of three years.

The appointment of the following persons to the Editorial Board of the *American Economic Review* was confirmed: Arthur R. Burns and Bernard F. Haley, for a term of three years; and Fritz Machlup for a term of one year, to finish the unexpired term of Edward H. Chamberlin.

The list of honorary members was considered, and members of the Executive Committee were asked to submit nominations at the spring meeting.

Because of long and valuable services to the Association, complimentary memberships were granted to Richard T. Ely and C. H. Crennan.

It was voted to approve a change in the by-laws, so as to permit the date of nomination and balloting to be advanced one month.

Adjourned.

3. Minutes of the first meeting of the 1938 Executive Committee:

The first meeting of the 1938 Executive Committee was held at Chalfonte-Haddon Hall, Atlantic City, at 12:00 M., December 30, 1937. There were present: President Alvin H. Hansen, presiding, and Messrs. Anderson, Bell, Clark, Dewey, Garver, Goodrich, Graham, Haig, Mills, and Sprague.

The minutes of the December 28, 1937, meeting were read and approved.

It was voted to hold the 1938 annual meeting, on December 27, 28, and 29, in Detroit, Michigan.

The publication of a Handbook in 1938 was authorized, and suggestions were made for the inclusion of additional information, so as to make this volume constitute a "who's who in economics." More definite proposals were to be submitted at the spring meeting of the Committee.

The request of the American Documentation Institute that the Association appoint a representative to that Institute for a term of three years was put on the table pending further inquiry.

Messrs. Roy C. Osgood, C. C. Wells, and the Secretary were reappointed members of the Finance Committee for the year 1938.

It was voted to approve the recommendation of Professor Dewey and Professor Bell that the salaries of Miss Rogers and Miss Tait be increased twenty-five dollars a month.

Adjourned.

The secretary's office edited the *Proceedings of the Forty-ninth Annual Meeting* and carried on the regular business of the Association.

In addition to the appointment of the Program Committee reported in the minutes, the following appointments were made by the President:

Nominating Committee
Ernest L. Bogart, Chairman
William A. Brown
Raymond T. Bye
Henry A. E. Chandler
I. Leo Sharfman
Arthur W. Marget

Committee on Elections

Melchior Palyi, Chairman
Frank P. Breckinridge
James Washington Bell

Auditor

Frank E. Kohler and Company

Representatives to the American Academy of Political and Social Science Meeting

S. Howard Patterson
Harry J. Loman
F. Cyril James

Representative at the Franklin and Marshall College Sesqui-Centennial Celebration

Noel P. Laird

Representative at the Anniversary Celebration of Davidson College

C. K. Brown

Representative at the Inauguration of William Stuart Nelson as President of Dillard University

Donald M. Halley

Permission for the use of the addressograph list was granted by the President and the Secretary to:

International Labor Organization
Reserve City Bankers Association

The changes in the membership list that have taken place during the year ending December 15, 1937, are as follows:

Total members and subscribers in December, 1936			3799
Annual members in December, 1936		2556	
Members removed in 1937:			
Resigned	42		
Lack of address	12		
Nonpayment of dues	88		
Died	23	165	
		2391	
Members added in 1937		261	
Total annual members in December, 1937		2652	
Life members in December, 1936	48		
Removed in 1937	4		
Total life members in December, 1937		44	
Total honorary members in December, 1936		17	
Total members in December, 1937		2713	

Subscribers in December, 1936	1178		
Removed in 1937	159		
	1019		
Added in 1937	200		
Total subscribers in December, 1937		1219	
Total members and subscribers in December, 1937			3932
Net gain			133

Credit for the increase in our membership is due very largely to those who have sent in nominations. I appreciate this help very much and hope it will continue.

It is with regret that I report that notice of the death of the following members was received during the year:

1936	1937
Champe S. Andrews	Charles E. Brooks
William F. Beller	G. F. Cadisch
Alfred W. Briggs	William R. Gray
John Cummings	John W. W. Hallock
Charles H. Derr	William G. Hastings
George M. Janes	Ralph E. Heilman
John P. Mitchell, Jr.	Clyde L. King
Malcolm C. Rorty	Ogden L. Mills (Life Member)
Henri See	Homer W. Norton
Robert Whitten	Thomas W. Page
	Warren M. Persons
	I. M. Rubinow
	Benjamin M. Squires
	Felix M. Warburg (Life Member)

Respectfully submitted,

JAMES WASHINGTON BELL, *Secretary*

REPORT OF THE MANAGING EDITOR OF THE AMERICAN ECONOMIC REVIEW FOR THE YEAR ENDING DECEMBER, 1937

The expenses during 1937 by principal items[1] were as follows:

Printing (paper, reprints, postage, etc.)	$5,917.78
Editorial	2,500.00
Clerical	2,751.00
Supplies	364.72
Contributors	1,541.75
	$13,075.25

This is $275.25 in excess of the budget estimate submitted a year ago; namely, $12,800.00. The additional expense is accounted for in part by the increase of 44 pages over the 1936 volume, and also the increase in clerical assistance. The correspondence of the *Review* has grown considerably during the past two or three years, owing to the larger number of books which are being published in the field of economics and which have to be placed for review and also to the larger number of manuscripts which are submitted for publication. During the past year 775 new books have crossed the desk of the managing editor.

As continued growth in these items is to be anticipated for the coming year, it appears necessary to ask for a somewhat increased appropriation. On the basis of printing 4,400 copies per issue in 1938, the following budget is submitted:

Printing (paper, reprints, postage, etc.)	$6,000.00
Editorial	2,500.00
Clerical	3,000.00[2]
Supplies	400.00
Contributors	1,600.00
	$13,500.00[2]

The budget estimate for 1937 was $12,800.00; and this, it will be observed, is an estimated increase of $700.00 for 1938.

The average number of copies printed this year was 4,375; and the number of pages for the entire volume was 882, an increase of 44 pages over the volume for 1936.

The pressure upon our space is proving to be very embarrassing. We are able to publish only a limited number of leading articles during the year; for this year the number was 31. We have in our portfolio a sufficient number of manuscripts already accepted by the members of the board of editors to fill two issues; and in this connection it might be noted that we have declined more than twice as many. This does not mean that all of the articles declined were unworthy of publication. It ought to be clearly understood that declination is not rejection as that term is ordinarily used.

The following persons have served as editors during the past year: Professors Clarence E. Ayres and Morris A. Copeland, whose terms expire this year; Professor Edward Berman, whose term expires in 1938; Professor Edward H.

[1] Discrepancies between these and the auditor's figures are accounted for by a difference in fiscal years.

[2] $300.00 subsequently added by the Executive Committee.

Chamberlin, who has resigned at the end of this year; Professors Alzada Comstock and Leonard L. Watkins, whose terms expire in 1939.

During the year 239 persons have co-operated in writing leading articles, communications, and reviews.

The usual tables are appended.

Respectfully submitted,

DAVIS R. DEWEY, *Managing Editor*

TABLE I—PAGES GIVEN TO EACH SECTION*

Year	Leading articles	Reviews	New books listed	Documents, reports, etc.	Periodical abstracts	Notes	Theses	Totals
1920	395	109	155	98	122	42	15	936
1921	331	103	133	39	117	38	11	772
1922	293	91	158	35	124	37	13	752
1923	298	122	184	26	113	43	14	800
1924	339	110	191	23	113	42	18	836
1925	325	131	178	27	110	38	23	832
1926	270	137	184	15	108	43	27	784
1927	262	120	195	32	114	42	27	792
1928	335	111	176	12	121	45	28	828
1929	315	181	173	18	1	52	28	768
1930	348	154	210	12	0	58	29	811
1931	369	170	197	13	0	40	25	814
1932	351	175	203	12	0	27	24	792
1933	360	178	179	6	34	28	24	809
1934	376	120	188	7	48	44	22	805
1935	341	198	183	7	46	37	21	833
1936	384	161	185	5	39	31	20	838
1937	386	194	202	4	35	41	20	882

* Figures for 1911–19 may be found in the report for 1930, published in the *Supplement*, March, 1931, p. 284.

TABLE II—EXPENDITURES

Year	Printing	Salary of editor	Payments to contributors	Clerical	Supplies	Totals
1920	$6,656.31	$1,500.00	$1,122.75	$1,595.64	$ 307.20	$11,181.90
1921	5,646.97	1,500.00	64.50	1,472.50	319.97	9,003.94
1922	4,795.28	1,500.00	—	1,370.00	314.77	7,980.05
1923	5,032.59	1,500.00	—	1,650.09	437.86	8,620.54
1924	5,423.28	1,500.00	1,110.25	1,464.01	305.32	9,802.86
1925	5,713.01	1,500.00	1,133.50	1,757.32	406.36	10,510.19
1926	5,332.24	1,500.00	1,128.00	1,589.86	323.43	9,873.53
1927	5,619.20	1,500.00	1,013.75	1,806.50	297.25	10,236.70
1928	5,321.95	1,500.00	1,190.50	1,956.50	375.37	10,344.32
1929	4,927.62	1,500.00	1,328.75	2,004.50	261.72	10,022.59
1930	5,386.67	2,500.00	1,447.75	2,253.00	347.80	11,935.22
1931	5,399.94	2,500.00	1,454.75	2,300.00	327.60	11,982.29
1932	5,143.23	2,500.00	1,451.00	2,300.00	386.13	11,780.36
1933	4,606.07	2,500.00	1,408.25	2,436.00	380.75	11,331.07
1934	4,670.43	2,500.00	1,384.75	2,420.00	326.12	11,301.30
1935	5,109.53	2,500.00	1,357.50	2,540.00	445.08	11,952.11
1936	5,316.56	2,500.00	1,450.00	2,540.00	345.12	12,151.68
1937	5,917.78	2,500.00	1,541.75	2,751.00	364.72	13,075.25

REPORT OF THE TREASURER OF THE ASSOCIATION FOR THE YEAR ENDING DECEMBER 15, 1937

During the past fiscal year, the total assets of the Association have increased from $58,012.29 to $61,028.39. The comparative statement in the auditor's report shows that the principal change in the composition of the assets consisted of the investment of an excess cash in bank and net income for the period. Total receipts during the year from all sources was $25,312.10. Income from dues, interest, dividends, and a contribution of $500.00 from a member account for $17,428.61 of this total, and income from subscriptions to the *Review* other than from members, sales of copies, and advertising in the *Review* account for

INVESTMENT PORTFOLIO

Year	At Par	Cost			Market*	Return		
	Bonds	Bonds	Stocks	Total	Stocks and Bonds	Bonds	Stocks	Total
1925	$25,000	$24,661.75		$24,661.75		$1,350.00		1,350.00†
1926	27,000	26,623.25		26,623.25		1,410.00		1,410.00†
1927	29,000	28,688.45		28,688.45		1,524.70		1,524.70‡
1928	29,000	28,633.45		28,633.45		1,642.77		1,642.77‡
1929	31,000	30,569.48		30,569.48		1,575.44		1,575.44‡
1930	31,000	32,439.48		32,439.48	$32,635.40	1,695.21		1,695.21
1931	39,500	39,134.48		39,134.48	32,307.44	1,886.81		1,886.81
1932	40,500	41,134.48		41,134.48	33,239.70	2,014.36		2,014.36
1933	33,500	32,962.48	$ 3,954.23	36,916.71	31,522.50	1,679.49	$ 108.57	1,789.06
1934	31,500	30,989.48	3,954.23	34,943.71	34,714.00	1,593.13	218.07	1,811.20
1935	16,000	15,280.48	28,114.50	43,394.98	50,338.72	1,022.96	680.70	1,703.66
1936	17,000	16,260.13	33,712.57	49,972.70	62,991.00	801.77	1,597.63	2,399.40
1937	20,000	19,160.91	37,399.20	56,560.11	52,064.75§	884.87	2,689.62	3,474.49

* As of date of audit.
† Estimated income for year.
‡ Certificate of deposit interest included.
§ December 3, 1937.

$7,883.49. Total receipts of $25,312.10 compare with last year's figure of $27,844.77. The latter figure, however, includes the profit from sale of securities, an item which can hardly be considered a normal source of income. Barring this item, receipts for 1937 exceed those for 1936 by a sum of $3,000.00, despite slightly heavier publication costs ($352.87), and a $500.00 contribution by the Association to the Higgs's bibliography. Larger income is due chiefly to the following increases: from dues, $368.11, from interest and dividends, $1,341.16, from subscriptions, $315.13, and from advertising in the *Review*, $599.35.

Publication expenses of $15,206.50 show a slight increase over $14,853.63 and this may be accounted for by the increased size and number of copies published of the *Review*. No handbook has been issued this year.

In the light of current market developments, our investment portfolio has shown very reasonable stability. The return on our investment, amounting to 6.3 per cent on cost, is much larger than we can reasonably expect as a regular yield. To make this point clear, the Finance Committee has separated the extra from the regular dividends received on its holdings of stock. The investment

policy of the Committee is briefly stated in its report. The table submitted last year showing the status of our investment holdings and the income derived therefrom is again presented, including this year's results. The total income from the first two years of the period represents estimates and the figures from 1927-29, inclusive, include small amounts of income from certificates of deposit.

A change has occurred in the personnel of the Finance Committee—the resignation of Mr. C. H. Crennan and the appointment of Mr. Roy C. Osgood. It is a matter of personal regret to his associates that Mr. Crennan's long, faithful, and effective service should have to be terminated, but we welcome the cordial association and wise judgment of our new incumbent.

Respectfully submitted,

JAMES WASHINGTON BELL, *Treasurer*

REPORT OF THE FINANCE COMMITTEE

During the past year, no substantial changes have been made in our investment portfolio; no securities were sold, and no shifts in securities were effected. Two purchases consisted of:

	Par Value	Cost
Gulf States Steel Company, 1st S.F., 4½%, due 1961	$3,000.00	$2,900.78
	Shares	Cost
International Harvester Company, 7%, preferred	25	$3,686.63

The portfolio as of December 3, 1937, is as follows:

Bonds

Par Value		Due	Cost	Value Market or Last Sale 12/12/36	Value Market or Last Sale 12/3/37
$1,000	Alabama Power Company, 1st and Ref. 5	1956	$ 1,042.50	$ 1,027.50	$ 920.00
1,000	Chicago, Terre Haute and Southeastern Railway, 1st 5	1960	972.83	878.75	785.00
1,000	Crown Willamette Paper Company, 1st S.F. 6	1951	1,005.75	1,056.25	1,032.50
1,000	Erie Railroad Company, Ref. and Imp. 5	1975	932.50	876.25	465.00
2,000	Gary Gas and Electric Company, 1st Ext. A 5	1944	1,920.40	2,015.00	1,700.00
2,000	Grand Trunk and Western Railway, 1st 4	1950	1,855.45	2,065.00	1,795.00
3,000	Gulf States Steel Company, 1st S.F. 4½	1961	2,900.78		2,505.00
2,000	Nevada California Electric Company, 1st S.F. 5	1956	1,895.40	1,960.00	1,430.00
1,000	Pennsylvania Railroad Company, Deb. 4½	1970	945.00	1,065.00	875.00
1,000	Southern Illinois and Missouri Bridge Company 4	1951	822.00	940.00	850.00
1,000	Southern Pacific Railway Company 4½	1981	927.50	950.00	617.50
2,000	Southern Railway Company, 1st .5	1994	2,070.40	2,235.00	1,835.00
2,000	West Texas Utilities Company, 1st A 5	1957	1,870.40	1,950.00	1,735.00
			$19,160.91	$17,018.75	$16,545.00

Number and Class of Shares	Cost	Value Market or Last Sale 12/12/36	Value Market or Last Sale 12/3/37	1937 Dividends per Share Paid or Payable Regular	1937 Dividends per Share Paid or Payable Extra
25 Chesapeake and Ohio Railroad Co., Com. ...	$ 1,309.07	$ 1,687.50	$ 981.25	$2.80	$1.00
50 General American Transportation, Com. ..	3,084.30	3,750.00	1,950.00	3.50	
100 General Electric Co., Com.	2,738.19	5,150.00	4,387.50	1.60	.60
50 General Motors Corp., Com.	2,057.47	3,418.75	1,781.25	3.75	
72 Glidden Co., Com. ...	2,370.72	2,934.00	1,926.00	2.00	.60
25 International Harvester Co., 7% Pfd.	3,686.63		3,450.00	7.00	
50 Kroger Grocery and Baking Corp., Com. ..	1,297.22	1,143.75	825.00	1.60	

25 Liggett and Myers Tobacco Co., Com. "B" ..	2,018.13	2,656.25	2,250.00	4.00	2.00
50 Link Belt Co., Com. ..	2,524.15	2,725.00	1,800.00	2.00	1.00
50 Mesta Machine Co., Com.	2,007.37	3,200.00	2,050.00	3.50	.75
50 J. C. Penney Co., Com.	2,878.28	5,050.00	3,475.00	4.00	1.50
50 Procter and Gamble Co., Com.	2,459.72	2,725.00	2,375.00	2.00	.25
50 Standard Brands, Inc., Com.	888.15	787.50	431.25	.80	
50 Standard Oil Co., of California, Com.	2,097.27	2,043.75	1,550.00	1.00	1.05
50 Union Carbide and Carbon Co., Com.	2,867.88	5,181.25	3,587.50	3.20	
100 Wayne Pump Co., Com.	3,114.65	3,500.00	2,700.00	2.00	1.00
	$37,399.20	$45,952.75	$35,519.75		

The value of our present holdings at the lower figure of market or cost, as of December 3, was $46,264.85, compared to $48,764.00 as of the corresponding date of last year. The liquidating value of $52,064.75, which includes the investments made this year, is lower than the corresponding figure of $62,991.00 of last year and reflects the precipitant recession of the general market this past fall. However, our holdings have not declined as much as the market averages.

The income from investments for the year 1937 amounted to $844.87 from bonds and $2,689.62 from stocks, a total of $3,534.49. This represents an average return of 4.6 per cent on bonds and 7.1 per cent on stocks, or a return of 6.3 per cent on the total cost of the securities.

The investment principles governing the administration of this fund have been, first, to conserve capital; second, to obtain a reasonable stability of income; and, third, to achieve as high a yield as is compatible with the risks which we can reasonably assume.

The composition of the fund is approximately two-thirds in stocks and one-third in bonds. The Committee has seen no convincing market reasons for shifting out of stocks and into bonds, though it is agreed that the proportion should not become more heavily weighted in stocks. From January until June, no investments were made because it was felt that no additions should be made to stocks and no appropriate bonds seemed available. After holding cash for several months, two rather conservative commitments were made.

Dividends have been separated to show regular and extra payments. We believe that our income from this source this year has been abnormal and that in coming years these payments will necessarily decline. If the Undistributed Profits Tax Law should be repealed, many companies will start plowing back a larger part of their earnings, and even if the same earnings are continued, they will be less free to make dividend distributions if they feel that surplus is less than it should be.

Respectfully submitted,

ROY C. OSGOOD, *Chairman*
CHARLES C. WELLS
JAMES WASHINGTON BELL

REPORT OF THE AUDITOR

December 21, 1937

Executive Committee,
American Economic Association,
Evanston, Illinois.

GENTLEMEN:

As requested we have audited the books and records of American Economic Association for the period December 13, 1936, to December 15, 1937, and submit herewith our report and the following statements:

Exhibit	*Number*
Balance sheet at December 15, 1937	I
Statement of income and expenses for period December 13, 1936, to December 15, 1937	II

Results from Operations

Net income for the year ended December 15, 1937, was $3,085.30 as compared to $6,980.80 for the preceding period. The preceding period, however, included profit of $5,510.47 from the sale of investments. Excluding this item from 1936 net income, the comparative results for the two periods will be $3,085.30 and $1,470.33, respectively. Dividends from corporate stocks and income from advertising space in the *Review* were greater in 1937 than in the previous period. A summary of operations for the two periods follows:

Particulars	Year ended December 12, 1936	Year ended December 15, 1937	Increase or *decrease*
Income from—			
Dues	$13,010.25	$13,378.36	$ 368.11
Interest and dividends from investments	2,404.86	3,546.02	1,141.16
Profit from sale of investments	5,510.47	——	*5,510.47*
Contribution for special purpose	——	500.00	500.00
Other sources	4.07	4.23	.16
Total income	$20,929.65	$17,428.61	$ *3,501.04*
Expenses and costs—			
Administrative and other operating expenses	$ 6,010.34	$ 6,020.30	$ 9.96
Contribution for special purpose, to—			
Association	——	500.00	500.00
Member	——	500.00	500.00
Publication costs	14,853.63	15,206.50	352.87
Publication income	*6,915.12*	*7,883.49*	*968.37*
Total expenses and costs	$13,948.85	$14,343.31	$ 394.46
Net income	$ 6,980.80	$ 3,085.30	$ *3,895.50*

Income from dues and from subscriptions again showed an increase over the preceding period. The increases were $368.11 and $315.13, respectively. The number of members and subscribers for the two years follows:

Classification	December 1936	December 1937
Members—		
Annual	2,556	2,652
Life	48	44
Honorary	17	17
Subscribers	1,178	1,219
Total	3,799	3,932

A comparison of publication income and expenses for the years 1936 and 1937, together with budgetary estimates of expenses based on 4,300 copies, follows:

Particulars	Year 1936	Year 1937	Budgetary estimates (1937)
Expenses—			
Printing of—			
Review	$ 5,470.77	$ 6,008.12	$ 5,400.00
Proceedings	2,037.90	1,922.03	——
Handbook	454.36	—— *	——
Editor's honorarium	2,500.00	2,500.00	2,500.00
Paid to contributors	1,450.00	1,541.75	1,500.00
Editorial clerical salaries	2,540.00	2,751.00	2,550.00
Other costs and expenses	400.60	483.60	350.00
Total expenses	$14,853.63	$15,206.50	$12,300.00
Less—Income—			
Subscriptions, other than members	$ 5,510.93	$ 5,826.06	
Sales of copies	642.13	696.02	
Advertising	762.06	1,361.41	
Total income	$ 6,915.12	$ 7,883.49	
Net publication expense	$ 7,938.51	$ 7,323.01	

* None issued.

The March issue of the *Review* consisted of 4,300 copies and the issues of the remaining quarters consisted each of 4,400 copies. The four issues contained a total of 940 pages, including a 16-page index in the December issue. Forty-three hundred copies of the *Proceedings* were printed, consisting of 344 pages.

Comparative Financial Statements

A summary of assets and liabilities of the Association at December 12, 1936, and December 15, 1937, showing increases and decreases between the two dates follows:

Assets	December 12, 1936	December 15, 1937	Increase or *decrease*
Cash in bank	$ 5,087.97	$ 1,497.98	$ *3,589.99*
Investments, at cost, in—			
Bonds	16,260.13	19,160.91	2,900.78
Stocks	33,712.57	37,399.20	3,686.63
Receivables, net	685.37	980.76	295.39
Inventories, at cost	1,986.84	1,747.54	*239.30*
Furniture, fixtures, etc., at cost	1,323.14	1,394.43	71.29
Reserve for depreciation	*1,043.73*	*1,152.43*	*108.70*
Total assets	$58,012.29	$61,028.39	$ 3,016.10

Liabilities and net worth			
Accounts payable	$ 145.09	$ 108.75	$ *36.34*
Unearned income	2,734.11	2,805.49	71.38
Membership extension fund	3,661.08	3,546.84	*114.24*
Proposed permanent secretariat fund	25.00	35.00	10.00
Life memberships	4,225.00	3,900.00	*325.00*
Surplus—			
Balance, December 12, 1936	47,222.01	47,222.01	——
Net income for period ended December 15, 1937	——	3,085.30	3,085.30
Transfer from life memberships	——	325.00	325.00
Total liabilities and net worth	$58,012.29	$61,028.39	$ 3,016.10

Additions to investment account consisted of $3,000.00 par value Gulf Steel Company first mortgage 4½ per cent bonds, maturing in 1961, and 25 shares International Harvester Company 7 per cent cumulative preferred stock, at a cost of $2,900.78 and $3,686.63, respectively.

All stocks and bonds owned by the Association were held in safekeeping by State Bank and Trust Company, Evanston, Illinois, and so certified to us under date of December 21, 1937. Interest from bonds was correctly accounted for and dividends received were in agreement with published reports of corporation disbursements.

Cash in bank was reconciled with certificate received from above mentioned depository.

Surety bonds in force at date of audit were as follows:

Name	Position	Amount of policy
James Washington Bell	Secretary-Treasurer	$75,000.00
Gertrude I. Tait	Assistant Secretary	5,000.00

We acknowledge with appreciation the co-operation extended us by the Association's personnel during period of examination.

Very truly yours,

FRANK E. KOHLER & Company
Certified Public Accountants

EXHIBIT I

AMERICAN ECONOMIC ASSOCIATION
BALANCE SHEET
DECEMBER 15, 1937

Assets

CURRENT ASSETS AND INVESTMENTS:			
Cash in State Bank and Trust Company, Evanston, Illinois		$ 1,497.98	
Investments, at cost—			
Bonds, par value $20,000.00	$19,160.91		
Corporate stocks	37,399.20	56,560.11	
Receivables—			
Interest accrued on bonds	$ 258.74		
Membership dues	252.50		
Review advertising	486.36		
Publication sales	70.58		
Sundry	43.83		
Total receivables	$ 1,112.01		
Less—Reserve for doubtful accounts	131.25	980.76	
Inventories, at cost—			
Economic Essays	$ 1,197.60		
Paper and cover stock	387.50		
Stamped envelopes	162.44	1,747.54	$60,786.39
FURNITURE, FIXTURES AND BOUND PERIODICALS, at cost		$ 1,394.43	
Less—Reserve for depreciation		1,152.43	242.00
Total assets			$61,028.39

Liabilities and Net Worth

ACCOUNTS PAYABLE			$ 108.75
UNEARNED INCOME:			
Membership dues		$ 405.79	
Subscriptions		2,399.70	2,805.49
MEMBERSHIP EXTENSION FUND			3,546.84
FUND FOR PROPOSED PERMANENT SECRETARIAT			35.00
NET WORTH:			
Life memberships		$ 3,900.00	
Surplus unappropriated—			
Balance, December 12, 1936	$47,222.01		
Net income for year ended December 15, 1937 (Exhibit II)	3,085.30		
Transfers from life memberships	325.00	50,632.31	54,532.31
Total liabilities and net worth			$61,028.39

EXHIBIT II

American Economic Association

Statement of Income and Expenses for Period December 13, 1936, To December 15, 1937

Particulars			*Amount*	
Income from:				
Dues—				
Regular members			$13,093.36	
Subscribing and contributing members			285.00	$13,378.36
Other sources—				
Income from investments—				
Interest on—				
Bonds	$ 884.87			
Savings account	45.95			
Dividends on corporate stocks	2,689.62			
Total	$ 3,620.44			
Less—Custodian's fee	74.42		$ 3,546.02	
Royalties and sale—*Economic Essays*			4.23	
Contribution from member toward H. Higgs Bibliography			500.00	4,050.25
Total income				$17,428.61
Expenses:				
Administrative and other operating expenses—				
Secretary's salary	$ 1,000.00			
Office salaries	2,812.50			
Postage	375.04			
Stationery and printing, and supplies	184.00			
Telephone and telegraph	60.04			
Insurance	266.60			
Exchange on checks	106.63			
Depreciation	108.70			
Annual meeting	581.42			
Executive committee expenses	341.71			
Other committee expenses	41.54			
American Council of Learned Societies	65.00			
Contributions to H. Higgs Bibliography, including $500.00 received from member as shown under income	1,000.00			
Auditing	50.00			
Miscellaneous	27.12		$ 7,020.30	
Publication expenses—				
Printing of—				
Review	$ 6,008.12			
Proceedings	1,922.03			
Editor's honorarium	2,500.00			
Paid to contributors	1,541.75			
Editorial clerical salaries	2,751.00			
Editorial supplies and expenses	364.72			
Sundry publication expenses	36.78			
Editor's traveling expenses	82.10			
Total publishing expenses	$15,206.50			
Less—Publication income—				
Subscriptions, other than from members	$ 5,826.06			
Sales of copies	696.02			
Advertising	1,361.41	7,883.49	7,323.01	
Total expenses				14,343.31
Net income (Exhibit I)				$ 3,085.30

REPORT OF THE COMMITTEE ON REPRINTS

This Committee was appointed in 1936 to consider the reprinting of the more useful and permanently valuable articles appearing in American journals of economics. It was requested to determine the names of articles to be printed, the probable demand, and probable cost.

By questionnaire, correspondence, and interview, the chairman has undertaken to determine which articles are desired and the probable demand for them. This survey has led to the following conclusions:

1. There are a great number of articles published in the *American Economic Review, Journal of Political Economy,* and *Quarterly Journal of Economics* (and in foreign journals) which are desired in reprinted form. Over two hundred articles have been suggested by one or more persons.

2. The probable demand for most of these articles if reprinted, however, is small. For most of them the estimated sales at prices of twenty-five to fifty cents each would be less than fifty or seventy-five copies a year for a short period of years.

3. Up-to-date articles dealing with matters of current interest such as labor, wages, tariffs, international trade, social security, and the like would occasionally be used in considerable numbers for class purposes if available at nominal prices. But this demand may be expected to be highly variable, uncertain, and in most cases short-lived.

4. The most frequently recommended and desired articles are those dealing with cost and price analysis. In the addendum to this report is a list of the articles most frequently recommended and for which a demand of possibly seventy-five to one hundred copies per year might be expected if published separately and sold for a price of less than fifty cents each. It is doubtful, however, if a sufficient number of these could be sold over a period of years to defray the cost of publication and distribution.

5. The publication of a volume of reprinted articles dealing with cost and price analysis, while desired by a small number of persons in the profession, would not satisfactorily meet the need of students and instructors interested in obtaining only certain articles at low cost. It is improbable that the publication of such a volume could be undertaken without a subsidy.

In conclusion, it does not appear that at present there is a sufficient demand for reprinted articles from the American economic journals to justify their publication and sale at prices dictated by the costs involved.

It is recommended, therefore, that the proposal be filed for future consideration in the event some means of cheaply reproducing them in small numbers or a subsidy for the venture is found.

ROBERT D. CALKINS, *Chairman*
A. E. MONROE
JACOB VINER

RESULTS OF QUESTIONNAIRE REGARDING THE DEMAND FOR REPRINTED JOURNAL ARTICLES

(Sent to 180 Professors of Economics; replies from 43)

	American journal articles	Foreign journal articles	All journal articles
Number of articles listed	185	37	222
Number recomended once	162	33	195
Number recommended twice	12	2	14
Number recommended thrice or more	11	2	13

Articles recommended thrice or more:

Viner, J., "Cost Curves and Supply Curves," *Zeitschrift für Nationalökonomie,* III (Reprinted).

Robertson, D. H.; Shone, G. F.; and Sraffa, P., "Increasing Returns and the Representative Firm: A Symposium," *Economic Journal,* XI, 80.

Bullock, C. J., "The Variation of Productive Forces," *Quarterly Journal of Economics,* XVI, 473 (Reprinted).

Bye, R. T., "The Nature and Fundamental Elements of Costs," *Quarterly Journal of Economics,* XLI, 30.

Ferger, W. F., "The Static and the Dynamic in Statistical Demand Curves," *Quarterly Journal of Economics,* XLVII, 36.

Schultz, H., "Marginal Productivity and the Pricing Process," *Journal of Political Economy,* XXXVII, 505-51.

Silberling, N. J., "Graphic Illustration of the Laws of Price," *American Economic Review,* XIV, 417.

Taussig, F. W., "A Contribution to the Theory of Railway Rates," *Quarterly Journal of Economics,* V, 438.

Taussig, F. W., "Is Market Price Determinate?" *Quarterly Journal of Economics,* XXXV, 394.

Taussig, F. W., "Price Fixing as Seen by a Price Fixer," *Quarterly Journal of Economics,* XXXIII, 205.

Working, E. J., "What Do 'Statistical Demand' Curves Show?" *Quarterly Journal of Economics,* XLI, 212.

Working, H., "The Statistical Determination of Demand Curves," *Quarterly Journal of Economics,* XXXIX, 503.

Viner, J., "The Utility Concept in Value Theory and Its Critics," *Journal of Political Economy,* XXXIII, 369-87, 638-59.

ANNUAL REPORT OF THE SOCIAL SCIENCE RESEARCH COUNCIL, 1936-37

The Council, after a thorough review of past and current activities, reasserted its primary function to be that of a general staff planning and guiding the advance of science in attack on the problems of society. It further recognized that in addition to participation in the execution of measures directly arising out of this primary function, the Council on occasion may usefully engage in other less immediately connected activities.

Planning aimed not alone at extension of knowledge but also at improvement in the ways of working toward the attainment of knowledge was continued by the so-called nuclear committees. These enterprises, directed specifically at the articulation of new research with existing knowledge, engaged in the effort to develop experimentally the possibility of greater continuity and coherence in research and thereby in resulting knowledge. Such undertakings were conducted within the broad area of personality and culture in the fields of acculturation, of competitive co-operative habits, of cultural hybrids, and of delinquency, and in the area of population.

The work of the committee on competitive co-operative habits was completed. Its report was printed with a supplementary memorandum in mimeographed form. The memorandum contains reports by a number of assistants covering research literature on co-operation and competition, with suggestions of research problems arising out of the literature; and includes an interpretative summary by the committee. The bulletin attempts to present an orienting theory of co-operation and competition, to organize existing knowledge that is relevant, and to suggest promising research problems.

Efforts were directed to development of other experimental lines of improvement of scientific procedure. A new committee was charged with the special task of conducting appraisals of completed research.

Through collaboration of a number of investigators a committee made an examination of what research had been undertaken, what materials gathered, and what research and materials are needed on social effects of the economic depression of 1929. The committee concluded its undertaking with publication of thirteen memoranda on research in religion, education, family, consumption, recreation, reading, crime, minorities, migration, rural life, health, relief, and social work as affected by the depression.

Other research planning reached some stage of development during the year in the fields of agricultural marketing, forestry economics, international relations, banking and credit in relation to economic stability, social security, economic stability in relation to social security, and in public administration.

In relation to the development of research personnel the Council during the year: maintained 8 predoctoral fellows in the first year of graduate study, in the amount of $11,361, and made 7 new appointments for 1937-38; maintained 7 predoctoral fellows in the second year of graduate study, all of whom had held Council fellowships during the first year of graduate work, in the amount of $10,411, and made 7 appointments for 1937-38 of holders of first-year fellowships in 1936-37; maintained 10 fellows for predoctoral field

training, in the amount of $20,925, made 19 new appointments for 1937-38, and provided for awards for 1938-39; maintained 13 postdoctoral fellows, in the amount of $45,775, made 2 renewals and 11 new appointments for 1937-38, and provided for awards for 1938-39; has followed the careers of candidates given the committee's fellowship tests, in continuation of the report published in 1935 on the selection of graduate students with a further report in view. Special graduate training courses were continued in agricultural economics and rural sociology with course enrollments numbering 47. These courses, housed at times at American University and at the Brookings Institution, came to an end in June, after six and a half years of operation. During that period there had been 517 registrations in advanced courses designed for improvement of personnel particularly in branches of public service expanding beyond the available supply of trained men. American University will in the future offer as a regular part of its curriculum substantially similar courses.

Among activities having to do with the materials of research, the Council published a report covering operation of the committee on government statistics and information services appointed jointly with the American Statistical Association. After its first emergency task of discovering where the forced budget economies of 1933 could be absorbed with least loss of value, this committee had made surveys of the statistical work of various units of government and examined critically and constructively the organization, personnel, work, location, and co-ordination of these services. The Council also published a report by the committee created jointly by the American Farm Economic Association and the committee of the Council on agriculture, covering an examination of the various federal censuses of agriculture with a view to a better understanding by economists of the character and limitations of the published data and to the possibility of indicating ways by which their values may be enhanced; under the auspices of the committee on materials of research appointed jointly with the American Council of Learned Societies, publication of a second edition of a manual on reproduction and further study of methods of reproduction and of related copyright questions.

In relation to actual research, committees and staffs in the fields of social security and of public administration maintained active contact with government officials, public and private agencies, and research workers, acting as a channel of communication between them, planning, and in some cases executing research, which resulted in publications on the labor supply and regional labor markets, on industrial pension plans as affected by legislative acts and proposals, on population problems in relation to unemployment insurance in West Virginia, on administration of unemployment compensation in Wisconsin and New Hampshire, and on administration of old age assistance in New York, New Jersey, and Massachusetts.

The study of real estate financing as a part of the broader study of banking and credit in relation to economic stability was continued and a first bulletin published by the National Bureau of Economic Research on national income and capital formation.

The Council provided 40 grants-in-aid on a nationwide basis to scholars of proved competence to assist in the completion of research of special sig-

nifiance, in the amount of $23,260; made 43 new grants to be enjoyed in 1937-38; and provided for awards for 1938-39.

The Council also awarded 7 grants-in-aid for 1937-38 under geographical limitations to members of southern faculties; and provided for awards for 1938-39.

A comprehensive review was made of the Council's grant-in-aid program.

During the year the Council met in full session for four days, in September and April.

The Carnegie Corporation of New York, the General Education Board, the Rockefeller Foundation, the Julius Rosenwald Fund, and the Russell Sage Foundation have generously supported the operations of the Council. New grants made to the Council 1936-37 totaled $515,250, of which $225,000 was for fellowships, $25,000 for national grants-in-aid, $78,750 for general administration, $105,000 for work in the field of social security, and $81,500 for work in the field of public administration.

SUMNER H. SLICHTER
E. G. NOURSE
F. H. KNIGHT

PUBLICATIONS

OF THE

AMERICAN ECONOMIC ASSOCIATION

1938

FIRST SERIES

Numbers starred are sold only with the sets; the supply of those double starred is exhausted. For information apply to the Secretary.

Volume I, 1886

		Price in paper
1.	Report of Organization of the American Economic Association. Pp. 46.	$ .50
2-3.	**Relation of the Modern Municipality to the Gas Supply. By E. J. James. Pp. 66.	.75
4.	Co-operation in a Western City. By Albert Shaw. Pp. 106.	.75
5.	** Co-operation in New England. By E. W. Bemis. Pp. 136.	.75
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